

1. — *Some South African Parasitic Hymenoptera of the families Evaniidae, Braconidae, Alysiidae and Plumariidae, in the South African Museum with a Catalogue of the known species.* ¹⁾ — By CHARLES T. BRUES.

Some time ago, I received from Dr. L. Peringuey, the director of the South African Museum, a quite extensive collection of parasitic Hymenoptera belonging to the families *Evaniidae*, *Braconidae* and *Alysiidae*. Since then Dr. Peringuey has made several other smaller sendings of material more recently accumulated by the Museum. He also compared many of the specimens with the types of species described by Cameron in 1906 and in addition sent me some types and co-types for examination.

With all of this material, I have been able to recognize a large number of species previously described from South Africa, as well as a few first discovered in Equatorial Africa. In addition there were a number of forms not hitherto described. With the exception of two or three species, all those considered are from the South African (or "Cape") region, including that part of the continent south of the Zambesi and Cunene rivers.

In the Catalogue of species included in the present paper, this boundary has been adhered to, and I have listed all of the described species known from this region, belonging to the *Evaniidae*, *Braconidae*, *Alysiidae* and *Konowiellidae*. Some *Stephanidae* have been sent to me, but the material in this family was so limited that it has seemed best not to include it in the present consideration. The family *Konowiellidae*, based upon the Neotropical *Plumarius* (= *Konowiella*?) is without doubt not a close relative of the other families mentioned, but as *Plumarius* was first described as an *Evaniid* and later placed in the *Braconidae*, it did not seem out of place to include it in this paper, particularly as its discovery in Africa is quite unexpected.

By far the greatest number of South African parasitic Hymenoptera have been described by Cameron in several extensive papers. First, in 1905, he dealt with the collections of the Albany Museum in Grahamstown; in 1906 with those of the South African Museum; in 1909 and 1910 with those of the Royal Zoological Museum in Berlin; and in 1911 with those of the Transvaal Museum. In addition to these he published several shorter papers in various other journals.

¹⁾ Contributions from the Entomological Laboratory of the Bussey Institution, Harvard University, No. 171.

Fortunately Cameron's descriptions are usually rather extended and his species can usually be recognized. In these same papers he erected a considerable series of genera, some of which have been shown to be synonymous or invalid. The same is true of some of his species, particularly in so far as synonymy is concerned.

In various papers, mainly between 1905 and 1914, Szépligeti published descriptions of many forms, the majority from Equatorial Africa although there are some South African species and I have recognized others in the material before me. The descriptions of this author are often extremely brief and unsatisfactory.

Several of the earlier Hymenopterists have described South African species of the families here dealt with but aside from a quite considerable number by Brullé (1846) and some by Holmgren (1868) they are very much scattered.

All of these papers, I have re-examined in the light of the present material and have been able to place a number of the species of these earlier authors.

FAMILY EVANIIDAE.

ODONTAULACUS, Kieffer.

ODONTAULACUS AFRICANUS, sp. nov.

♀. Length 10 mm.; ovipositor about 6 mm. Black; upper side of first segment of abdomen, except at base and apex, bright fulvous; legs, except coxae, trochanters and tarsi, fulvo-ferruginous. Wings infuscated, strongly so on the apical half. Head long behind the eyes, almost as thick as broad when viewed from above; shining above, with large, well separated punctures; front strongly transversely convex above the antennae, with only a very slight median impression; its surface punctate like the vertex; facial impression between antenna and eye deep, shining and impunctate below; clypeus coarsely punctate, shining, with a short median tooth on its anterior margin; oral margin at sides of clypeus smooth and shining; malar space punctate, about one third as long as the width of the eye; head behind more sparsely punctate than in front. Eyes bare. Middle lobe of mesonotum coarsely transversely ridged, impressed medially in front and faintly so behind on basal half; lateral lobes coarsely reticulate, more or less transversely: scutellum transversely ridged at middle, punctate on sides; propodeum before the petiole similarly ridged, more or less areolate on apical slope and very finely rugose-reticulate on the sides. Neck of prothorax shining, coarsely, sparsely punctate; propleura

more or less obliquely reticulate or areolate; mesopleura confluent punctate, smooth along the posterior margin and more or less reticulate along the anterior margin; metapleura coarsely confluent punctate above: finely reticulate-rugose below. Hind coxae rugose-punctate, more or less distinctly transversely rugose apically. Abdomen of the usual form. Tarsal claws slender with two teeth below before apex, both acute, the second much the larger and very close to the apex, the first well removed from the base of the claw; tibiae very distinctly spinulose. Wings with the second section of the radius twice as long as the first and half as long as the second; cubitus arising just above the middle of the basal vein; stalk of first discoidal cell nearly as long as the first recurrent nervure; second cubital cell twice as long below as above, receiving the recurrent nervure at its middle; upper third of second transverse cubitus present, very oblique; discal venation of hind wings distinct.

Type from Matroosberg, Ceres District, Cape Province (3500 feet) (R.M. Lightfoot), January 1917.

This is the first member of the genus to be discovered in the Ethiopian region, in fact, the whole subfamily *Aulacinae* is practically absent in this part of the world. It is not very typical in the form of the tarsal claws, upon which the genera are to a great extent founded. The teeth are longer than is usual in other members of the genus and approach those of *Pristaulacus*, which, however, always has at least three teeth. Of the various species which I have seen it is most similar to *O. bilobatus* Prov., from North America, and that species too has long, acute tarsal claws. It is an interesting addition to the South African fauna.

GASTERUPTION, Latreille.

GASTERUPTION JOHANNIS, Cameron.

Ann. S. Afric. Mus., vol. 5, p. 24. (1906).

The type has the first discoidal cell triangular, not four-sided and the species is wrongly placed in Kieffer's key (Das Tierreich, p. 232). It falls next to *G. sanguineum* Kieff. also from Cape Province but the two species appear to be distinct and separable as follows:

Propodeum coarsely transversely striate; metapleura and upper half of mesopleura punctate-reticulate	<i>G. sanguineum</i> Kieff.
Propodeum reticulate; metapleura reticulate; mesopleura reticulate, more coarsely so below and with a dull smooth space anteriorly	<i>G. johannis</i> Cam.

The length of the ovipositor is 12 mm. and the body 14 mm. in *johannis*.

GASTERUPTION PULCHRIPENNE, Cam.

Ann. S. Afric. Mus., vol. 5, p. 23. (1906).

The mesonotum is rugose-reticulate, but not noticeably transversely so; the collar is about as long as the distance from the tegula to the anterior border of the mesonotum; the propodeum is reticulated over its entire surface: the first discoidal cell is large, nearly twice as long as the second; the head is very long behind the eyes and the ocelli are close together, far removed from the occipital margin.

GASTERUPTION FLAVONOTATUM, Kieff.

Bull. Soc. Hist. Nat., Metz, vol. 3, p. 94 (1911).

One female from Barberton, Transvaal, April, 1911 (H. Edwards). This was originally described from Willowmore, Cape Province.

GASTERUPTION FUSCIPENNE, sp. nov.

♀. Length 14 mm.; ovipositor 13–14 mm. Black, with the humeri, entire pleurae, sides of second and third abdominal segments and all tibiae (darker externally) rufous or rufo-ferruginous, wings strongly infuscated except on the basal third. Head comparatively short, broadly rounded and but little narrowed behind, the temples barely as long as the width of the eye; hind margin strongly carinate below, more weakly so above; surface opaque, leathery, bare except for some short white pubescence along the sides of the face; cheeks nearly as long as the pedicel of the antennae; posterior ocelli slightly closer to the eye than to one another and twice as far from the occipital margin as from one another. Antennae rather stout near the middle, fourth and following joints clothed with minute, dense, spiny pubescence; scape as long as the third joint; second slightly over half as long; fourth slightly shorter than the second and third together, nearly three times as long as thick; following very gradually growing shorter except the apical joint. Antennae inserted just below the middle of the eye. Collar as long as the lower edge of the propleura, shorter than the distance from the humerus to the tegula, irregularly punctate above, pronotum with a rather large, acute tooth at each lateral angle. Mesonotum nearly twice as long as wide, with a transverse sculpture composed of punctures and irregular striae combined. Scutellum with fine shagreened sculpture medially, with a lateral punctate line, outside

of which it is coarsely, obliquely striate. Propodeum finely punctate-reticulate, with a distinct median shining ridge. Pleurae almost without pubescence, except for fine sparse whitish hair on the meso- and metapleurae. Propleura leathery, except for the usual horizontal and vertical crenate lines; mesopleura finely rugose, with a smoother area anteriorly below and some indistinct, oblique striae near the tegula; metapleura similar, with some oblique striae near the base of the hind wing. Abdominal petiole slightly longer than the thorax. Ovipositor brown; its sheaths black, with the apices white. Hind coxae strongly transversely striate above; faintly obliquely striate on the sides and leathery below; hind tibiae stouter than usual. Anterior discoidal cell four-sided, but with the outer side very oblique; lower side less than two-thirds as long as the upper which is slightly shorter than the first section of the radius and three times as long as the height of the cell.

Two specimens from Cape Town (R. M. Lightfoot) Jan. 1913.

This species is related to *G. aethiopicum* Stadelmann and *G. tenuicauda* Kieffer, from both of which it differs in the sculpture of the mesonotum, unicolorous hind tibiae and darker wings.

GASTERUPTION PERINGUEYI sp. nov.

♀. Length 14 mm.; ovipositor 16 mm. Black or piceous, with rufous markings on the head and thorax; wings slightly infuscated. Head with the sides of the clypeus, malar space and mandibles, except tips, rufous; lower part of propleura, its apex near the tegula, humeral angles of mesonotum and articulation at base of abdominal petiole rufous; tegulae rufo-piceous; outer surface of four anterior tibiae and the first joint of their tarsi white; hind tibiae with an incomplete annulus at base, and a spot at tip of their first tarsal joint, white; sheaths of ovipositor white at tips. Head one-half longer than wide, narrowed behind the eyes, the part behind the eyes less than half the length of the eye; occipital rim barely evident above; front and vertex subopaque; paired ocelli nearer the eye than to one another and farther from the posterior margin of the head; face subshining, silvery pilose at sides; first flagellar joint slightly longer than the scape and nearly twice as long as the two preceding together; following decreasing in length. Malar space almost wanting. Neck long, but shorter than the distance of the tegula from the front border of the mesonotum, shining and finely cross-striate in front; anterior angles of propleura each produced into a strong tooth, its surface reticulate medially, shagreened around the border. Meso-

notum with large widely separated punctures on the disc, with distinct transverse ridged sculpture before and behind; parapsidal grooves well impressed. Scutellum nearly smooth medially, very finely reticulate-punctate laterally. Propodeum with a median shining ridge, on the sides coarsely irregularly reticulate, shagreened anteriorly at each side of the insertion of the petiole. Hind coxae finely, transversely striate and shining above, dull and granulate below; almost as long as the propodeum. Petiole very long and slender, fully as long as the entire thorax, its surface opaque, finely granulate, without any striation; second and third segments each half as long as the petiole; remainder of abdomen more shining. Hind tibiae rather less strongly clavate than usual; hind metatarsus as long as the following joints together. First discoidal cell four-sided, one-third as long as the first section of the cubitus which arises well below the junction of the median and basal veins; its lower side two thirds as long as the upper.

Type from Cape Town, Cape Province (Péringuey), 1915.

This species is similar to *G. punctulatum* Schlett. differing in the sculpture of the mesonotum, hind coxae, and head, and in the color of the abdomen. The form of the first discoidal cell and the origin of the cubitus are also different.

GASTERUPTION CRASSIVENTRE, Cameron.

Ann. S. Afr. Mus., vol. 5, p. 23. (1906).

The head is unusually short and broadly rounded behind and the entire body is extremely stout. The first discoidal cell is not distinctly four-sided, and consequently the species will not run out correctly in Kieffer's table in "Das Tierreich".

GASTERUPTION FOSSATUM sp. nov.

♀. Length 10 mm.; ovipositor nearly as long as the body. Almost entirely black or dark piceous. Mandibles, except teeth, and four anterior legs beyond the knees, excepting a darker band on the middle of the tibiae, brownish-yellow; tips of first, second and third segments obscurely ferruginous or rufous; hind tibiae obscurely pale brownish at base; hind metatarsi fuscous; wings nearly hyaline; sheaths of ovipositor entirely black. Head long and narrow, nearly twice as long as broad, almost semicircularly rounded behind the eyes; upper surface shining and polished; face densely silvery pilose on the sides, between which it is subopaque and minutely punctulate;

malar space short, but distinctly present; occipital carina almost wanting; posterior ocelli as far from one another as from the eye, nearly twice as far from the occipital margin. Antennae with the first four joints of about equal length although the third and fourth, which are strictly equal, are each about one-fifth longer than the basal ones; following to ninth about of equal length, but becoming thicker till the ninth is about one-half longer than wide. Neck about one fourth shorter than the line from humerus to tegula, its surface shining, finely punctate. Mesonotum before the furrows shining, with deep, sparse, coarse punctures irregularly disposed; behind the furrows finely punctate with a few large punctures intermixed and almost impunctate on its posterior part. Scutellum also shining, nearly impunctate. Propodeum very finely rugose-reticulate, with a broad median sulcus, deepest behind, the center of which is smooth and polished. Hind coxae shining, very minutely transversely aciculate. Abdomen of the usual form, sub-shining, the petiole nearly as long as the thorax. Prepleura almost smooth, except for a small triangular, reticulate area behind; mesopleura and metapleura finely rugose punctate. Thickened portion of hind femora rather slender. First discoidal cell distinctly foursided; cubitus arising at the same point as the basal vein; first discoidal cell one third as long as the first section of the cubitus.

Type from Mfongosi, Zululand (W. E. Jones) Dec. 1916.

This species may be readily known by the sulcate metathorax and the nearly equal first four antennal segments.

TRICHOFOENUS, Kieffer.

TRICHOFOENUS PEDICELLATUS, sp. nov.

♀. Length 11 mm.; ovipositor 6 mm. Black, three basal segments of abdomen rufo-piceous; spot at base of all tibiae pale yellowish; extreme apex of four anterior tibiae, basal three joints of front tarsi and half of basal joint of middle tibiae, pale yellow; antennae piceous brown, black at base; wings hyaline, with a brownish tinge. Head about twice as long as wide, very long behind the eyes, its width at vertex less than half that just above the eyes; surface subopaque, but not distinctly punctate nor striate; vertex with a fine, but not transparent carina; posterior ocelli more than three times as far from the vertex as from one another; face silvery pubescent medially as well as on the sides; malar space wanting. Scape of antennae twice as long as thick, distinctly longer than the pedicel, first flagellar joint one half longer than the pedicel; second distinctly longer than the

first and much thicker. Neck very long, one fourth longer than the distance from the tegula to the anterior margin of the mesonotum; its surface coarsely shagreened. Mesonotum and scutellum shagreened, sub-shining; parapsidal grooves indicated by crenate lines; scutellum separated by a smooth, straight, grooved line, preceded by a crenate groove that extends laterally and forward past the tegula; lateral crenate furrows of scutellum not very deeply impressed. Propodeum with a raised, rounded smooth median line; finely reticulate elsewhere; its posterior face gently declivous. Hind coxae transversely striate on apical half minutely roughened basally, on the sides, and below; hind tibiae only moderately thickened apically. Propleura shagreened, with a vertical and horizontal crenate line meeting below and defining a large triangular area; mesopleura reticulate, except for a small shagreened space above; metapleura reticulate. Wings with the cubitus arising just below the basal vein; second and third sections of radius equal, each one-fourth longer than the first; first discoidal cell two-fifths as long as its petiole, scarcely four-sided, the very oblique apex nearly as long as the lower side. Abdominal petiole slightly longer than the thorax; abdomen rather dull and more distinctly pubescent than usual, as is the entire body. Sheaths of ovipositor black, except for an obscure rufous spot at the extreme tip.

Type from Mfongosi, Zululand (W. E. Jones), February 1914.

The eyes are distinctly hairy and the species belongs to this genus as defined by Kieffer. It is most closely related to *T. scutilicauda* Kieffer from Australia.

EVANIA, Fabricus.

EVANIA APPENDIGASTER, Linné.

There are numerous specimens from Durban and Cape Town.

EVANIA PERINGUEYI, Cameron.

Ann. S. Afr. Mus., vol. 5, p. 19. (1906).

This is undoubtedly the widespread *E. appendigaster* L. The type is identical structurally, but differs in the paler color of the legs, parts of the body and venation of the wings, due evidently to its being a teneral, not fully colored specimen.

EVANIA FULVOSPINA, Cameron.

Ann. S. Afr. Mus., vol. 5, p. 21. (1906).

In addition to the type from Cape Town there are three specimens from Mfongosi, Zululand (W. E. Jones) and one from Pilgrim's Rest, Transvaal (L. Schunke).

The parapsidal furrows are not clearly defined, but are present in the type, which is a female and in the female from the Transvaal. In the Zululand examples, all males, they are somewhat more distinct. In the male the abdominal petiole is much longer, nearly twice as long as the upper edge of the propodeum.

This species is evidently very similar to the European *E. incerta* Kieffer, which I have not seen.

EVANIA RUFISCAPA, sp. nov.

♂. Length 3.6 mm. Black, first three joints of antennae below and the four anterior tibiae rufous; wings hyaline, venation paler than usual, except near the costa; tegulae rufo-piceous. Head and thorax shining, only very sparsely white pubescent above, more strongly so on the sides. Front faintly excavated above the antennae and with a trace of a carina on each side from the base of each antenna upward toward the ocelli; rugose-punctate, more finely so medially and with indications of vertical striae or aciculations; vertex with rather large, irregular, scarcely confluent punctures; ocelli in a very low triangle, the posterior pair as far from the posterior margin of the head as from one another and only half as far from the eye; face strongly convex, with rather coarse irregular striae converging toward the mouth, with a groove extending from the inner base of each mandible nearly to the eye; cheeks striate like the face, less than half as long as the eye; head behind smooth and polished. Antennal scape as long as the following two joints; second joint scarcely longer than wide, half as long as the third; fourth fully as long as the second and third together and the following about three times as long as thick; mesonotum with distinct, deeply impressed parapsidal furrows; with large, shallow, well-separated punctures; smooth along the sides; scutellum with similar, more or less confluent punctures. Propodeum with its posterior surface nearly vertical and slightly concave, finely reticulate before the petiole; coarsely so elsewhere as are also the metapleurae. Mesopleura with the polished space occupying almost all of its upper half. Metasternal process long, with short, divergent arms. Petiole of abdomen twice as long as the space separating it from the scutellum; rather finely and somewhat irregularly grooved

longitudinally, except at the extreme base. Legs rather long, hind tibia and femur together as long as the body; hind tibiae distinctly spinulose on the outer surface, longer spur slightly over half the length of the metatarsus; tarsal claws bifid at apex. Basal vein parallel with the subcosta on its upper two thirds, but not unusually close to it; cubitus arising near the upper end of the basal, so that the upper section is only half as long as the transverse cubitus; the latter but little more than half the length of the first section of the cubitus; first recurrent nervure (transverse discoidal of Kieffer) suddenly bent upward at tip; apex of radial cell blunt, the radius entering the costa almost at a right angle; six frenulum hooks.

Type from Mfongosi, Zululand, Feb. 1914. (W. E. Jones.)

This species is related to *E. divergens* Kohl. from West Africa, differing in the length of the antennal joints and the form of the radical cell. From *E. rimosa* Enderlein, also from West Africa it differs by its non-carinate scutellum and in the conformation of the basal joints of the antennae. It is also much smaller than either of these species.

PROSEVANIA, Kieffer.

PROSEVANIA AFRA, Kieffer.

Ann. Soc. Ent. France, vol. 80, p. 157. (1911).

Das Tierreich, Lief. 30, p. 63. (1912).

Three specimens from Mfongosi, Zululand (W. E. Jones) extend considerably the known range of the single African species which was described from San Antonio in the Congo. The genus is well represented in the East Indies.

BRACHYGASTER, Leach.

BRACHYGASTER BIDENTATA, Kieffer.

Bull. Soc. Ent. France, 1911, p. 304 (diagnosis)

Das Tierreich, Lief. 30, p. 36. (1912). (description)

A ♂ specimen from Potchefstroom, Transvaal (T. Ayres), another from Bulawayo, Southern Rhodesia, and a third, from Kaapmuiden, Transvaal (R. W. Tucker), Oct. 30, 1918. This species was described from the Transvaal. The Rhodesian example has the third and fourth antennal joints a little longer, the prongs of the metasternal process less divergent and a few striae on the petiole, thus approaching *B. minuta*, var. *aethiopica* Kieffer, although it has the sides of the face carinate as in *B. bidentata*.

FAMILY BRACONIDAE.

SUBFAMILY STEPHANISCINAE.

OGMOPHASMUS, Enderlein.

Archiv Naturgesch. Abth. A. Heft 2, p. 13 (July 1912).

Cameron, Ann. Soc. Ent. Belgique, vol. 56, p. 368 (October 1912)
(*Rhopalospathius*).

There is no doubt that *Rhopalospathius* is the same as *Ogmophasmus*, and possibly the type species may be identical.

OGMOPHASMUS ERYTHROTHORAX (Cameron).

Ann. Soc. Ent. Belgique, vol. 56, p. 371 (1912) (*Rhopalospathius*).

There are two specimens of this species of this species from Mfongosi, Zululand (W. E. Jones), January 1917 and March 1917. These may represent a new species but agree well with Cameron's description. The base of the stigma is white and the head and thorax are both in great part rufous.

SUBFAMILY SPATHIINAE.

SPATHIUS, Nees.

SPATHIUS STRIATICEPS, sp. nov.

♀. Length 4.5 mm.; ovipositor as long as the body. Piceous varied with yellowish brown. Front, except margins; apical part of antennae; thorax, except prothorax; and petiole of abdomen piceous; remainder of body and legs pale, including tegulae; the abdomen stained with rufopiceous, and the femora blackened above. Wings nearly hyaline, stigma black with pale base; veins dilute brown. Front, vertex and face, except for two median tubercles, transversely striate; head behind smooth. Head considerably wider than long, the occiput deeply emarginate, with a strong carina: ocelli on a smooth tubercle, very close together; eyes entire, small, broadly oval, nearly twice as long as the smooth malar space. Antennae very long and slender; scape short,

obovate; first flagellar joint one-half longer than the second and fully twice as long as the scape; succeeding joints shorter. Pronotum coarsely transversely wrinkled above. Mesonotum about as long as wide, shagreened, transversely striate anteriorly on the sides, the middle lobe sharply declivous in front; parapsidal furrows coarsely transversely striate on the anterior half of the mesonotum, the striae extending more or less beyond the furrows; behind they are separated from a smooth median furrow by a fine raised line; basal groove of scutellum composed of four elongate foveae separated by short carinae; disc of scutellum only slightly convex. Propodeum more or less transversely reticulate, with a large area on each side that is smooth basally; superomedian area lozenge-shaped, more acute in front. Abdominal petiole nearly as long as the thorax, of even width, the spiracles tuberculate, placed at its anterior third; surface above irregularly, more or less longitudinally reticulate; body of abdomen highly polished, no longer than the petiole; second segment gradually widened behind where it is nearly as wide as long; following segments rapidly narrowed, together but little less than half as long as the second. Propleura finely rugose-reticulate below, above with some longitudinal striae, between with a horizontal impression crossed by some coarse striae or carinae. Mesopleura smooth with the oblique furrow crenate and with some foveae to the sides anteriorly, with a coarsely crenate line inside the posterior margin. Metapleura reticulate, much more coarsely so near the propodeum. Legs long and slender, the femora thickened, obclavate; hind coxae with a minute tooth below at the base. Body and legs clothed with sparse whitish hair. Radial cell nearly attaining the wing tip; third section of radius as long as the other two together; first one-third as long as the second; nervulus interstitial; recurrent nervure long, entering near the base of the second cubital cell; the latter somewhat widened toward the apex which is only one third shorter than the top; nervellus originating distinctly below the recurrent nervure; hind wing with the radial cell simple, the submedian cell two-thirds as long as the median.

Type from Mfongosi, Zululand (W. E. Jones), April, 1916. Three paratypes, from Acornhoek, Eastern Transvaal (R. W. Tucker), November 1918. In the paratypes the striation of the head does not extend above the ocelli, but they appear otherwise to be identical with the type.

This species and the following differ from most members of this highly polymorphic genus in the non-globose head, with deeply emarginate occiput.

SPATHIUS LAEVICEPS, sp. nov.

♀. Length 4.5 mm.; ovipositor one-fourth longer than the body. Entirely dull fulvous, the tarsi and the antennae toward tips, darkened; sheaths of ovipositor piceous. Wings subhyaline; stigma pale yellow, veins piceous. Head entirely shining and without sculpture; considerably wider than thick, the temples arcuately rounded, much narrower than the eyes; occipital deeply and broadly emarginate; occipital carina strong but not distinctly raised; ocelli small and very close together; front nearly flat. Eyes of moderate size, broadly oval, three times as long as the smooth malar space. Antennal scape short, obovate; first flagellar joint nearly twice as long as the scape; second noticeably shorter, following decreasing, but all long and slender. Pronotum very coarsely and irregularly transversely wrinkled. Mesonotum sub-shining, shagreened, the middle lobe strongly convex; parapsidal furrows deep anteriorly where a few of their transverse ridges extend to the sides of the middle lobe; behind more shallow and confused with some foveae and short transverse ridges that extend between them and slightly on to the lateral lobes. Scutellum shining, with four foveae at base separated by sharp ridges. Propodeum areolate behind, the carinae distinct, but not strongly elevated; superomedian area pentagonal, with a posterior side adjoining the petiolar area; nearly smooth anteriorly, rugulose-reticulate posteriorly. Propleurae rugulose below, coarsely longitudinally wrinkled above. Mesopleura with the center smooth and shining; the lower oblique furrow and anterior margin crenate; upper corner horizontally wrinkled; posterior edge with a crenate furrow. Metapleura reticulate. Hind coxa with a minute tooth at its lower angle, the femora obclavate; legs clothed with stiff pale hairs. Abdominal petiole nearly as long as the thorax, of nearly even width, finely and irregularly reticulate or rugose, without distinct longitudinal sculpture; second segment widened to the tip, considerably longer than wide; following short and narrowed. Basal vein straight; nervulus very slightly postfurcal; radial cell almost reaching the tip of the wing; third section of radius slightly longer than the other two sections together, second nearly three times as long as the first, one-half longer than the second transverse cubitus and as long as the first; recurrent nervure long, received a considerable distance beyond the base of the second cubital cell, the latter parallel, not widened toward apex; nervellus originating distinctly below the recurrent nervure. Radial cell of hind wing simple, not divided; submedian cell two-fifths as long as the median.

Type from Komati Poort, Eastern Transvaal (R. W. Tucker), November 1918.

This species is readily distinguished from the preceding by its pale body and stigma as well as by the sculpture of the head, thorax and abdominal petiole.

SUBFAMILY HORMIINAE.

SPATHIOHORMIUS, Enderlein.

SPATHIOHORMIUS DENTATUS. sp. nov.

♀. Length 5.5 mm.: ovipositor distinctly longer than the abdomen. Black, the orbits and base of antennal flagellum and tegulae rufopiceous; legs marked with pale brownish yellow as follows: fore legs, including coxae, except middle of femora; middle legs, beyond coxae, except spot on femora, hind trochanters and tibiae and tarsi, except tips. Body and legs with sparse, stiff, pale hairs. Wings yellowish hyaline, stigma piceous, pale at base; veins fuscous, costa fulvous at base. Head a little broader than long, the temples short, arcuately narrowed: vertex and head behind shagreened: front narrowed toward the base of the antennae, the ocelli not much farther from the eye than from another, face convex, nearly smooth; eyes large, slightly emarginate next to the antennae: malar space less than half the diameter of the eye, without a distinct furrow. Antennae as long as the body, very slender, with more than 30 joints: scape twice as long as thick, flagellar joints all very long and slender, the first to fourth very slightly decreasing in length. Pronotum coarsely transversely wrinkled: mesonotum nearly twice as long as broad, its surface shagreened: parapsidal furrows not meeting behind, marked by large shallow foveae, between them near the base of the scutellum are two raised lines defining a median groove. Scutellum weakly convex, carinate laterally at the base, basal furrow broad, with several cross lines near the median line. Propodeum with four large basal areas defined by carinae, the median ones more than half as long as the propodeum; areas shagreened, apical portion rugose-reticulate. Propleura, above, longitudinally reticulate, below and the prosternum shagreened. Mesopleura below with a deep, narrow horizontal groove extending its entire length, its surface bare; shagreened; anteriorly above with a more or less triangular raised area separated by an arcuate furrow, and with a smooth furrowed line next to the posterior margin. Metapleura reticulate, its edge produced into a small tooth just above the middle coxa. Abdomen slightly longer than

the thorax, subsessile or slightly clavate, the first segment fully twice as long as broad at tip; sides evenly narrowed, the base more than half as wide as the apex. Entire dorsum of abdomen regularly, coarsely longitudinally striate, with minute transverse lines between the striae; the first segment with two of the striae on each side thickened at the base to form short carinae; second and third segments together as long as the first, the second longer than the third, suturiform articulation broad and shallow, but well marked; fourth segment transverse with a constriction or impressed groove near the base: fourth segment with four large teeth at apex, the median pair acute, separated by an angular emargination, the lateral obtuse, separated inwardly by an arcuate emargination and externally by a sinuation of the lateral margin of the segment. Legs short and thick, the femora stout, especially the posterior pair; these only two-thirds the length of the tibiae and less than four times as long as thick; hind coxae with a blunt tooth at the lower angle; the legs and especially the tibiae with the sparse whitish hairs very stiff and bristly. Wings with the median vein only slightly curved; nervulus very short, postfurcal by its own length; cubitus, discoidal and middle section of radius parallel as are also the basal, first transverse cubital and recurrent nervure, the latter received at the base of the second cubital cell; radial cell nearly attaining the wing tip, the third section of the radius as long as the first and second; second three times as long as the first and twice as long as the second transverse cubitus; nervellus interstitial with the discoidal vein; stigma emitting the radius at its middle. Hind wing with the radial cell simple, indistinct; sub-median cell as long as the median.

Type from Mfongosi, Zululand (W. E. Jones), April 1916.

This peculiar species might easily be separated as a distinct genus or subgenus on account of the dentate apex to the abdomen, but it agrees otherwise closely with Enderlein's diagnosis of *Spathiohormius*, which is unfortunately unknown to me in nature.

HORMIOPTERUS, Giraud.

HORMIOPTERUS CAPENSIS, sp. nov.

♀. Length 4.5 mm.; ovipositor nearly as long as the abdomen. Black; underside of scape and of flagellum at base, and tarsi fuscous; trochanters more or less piceous. Wings hyaline, with fuscous markings as follows: spot before middle of median cell; crossband extending from just before nervulus to origin of nervellus; apical portion beyond middle of stigma, darkest in radial cell and much weaker

near wing tip, with a hyaline spot just beyond the stigma and a streak along the second transverse cubitus; veins piceous; stigma black, with the basal third whitish. Head scarcely broader than thick, the temples broad; rugulose above, the face shagreened, cheeks and head behind, faintly shagreened, polished: ocelli in a nearly equilateral triangle, nearly three times as far from the eyes as from one another. Eyes small, oval, no longer than the malar space, which is smooth, without furrow. Antennae with more than 20 joints; scape elongate-oval, no longer than the first flagellar joint which is four times as long as thick; second one-fourth shorter, following decreasing in length, those toward apex fully twice as long as thick. Mesonotum and scutellum rather coarsely shagreened; parapsidal furrows weakly foveate in front, the inner edges sharply marked as the middle lobe is raised above the lateral ones anteriorly: behind evanescent, with some longitudinal wrinkles between them next to the scutellum. Posterior edge of mesonotum indicated by a linear impression: basal scutellar furrow deep, foveate: disc very convex, with a lateral carina at base; propodeum longitudinally striate above, except for a rugulose spot basally above at each side. Propleura irregularly wrinkled near middle, shagreened above and below. Mesopleura irregularly wrinkled above, shagreened on the upper anterior portion, nearly smooth below, with a horizontal row of large, very shallow foveae, its posterior edge with a coarsely punctate line. Metapleura shagreened in front, shagreened behind, with a finely punctate line next to the mesopleura. Abdomen as long as the head and thorax: first and second segments coarsely longitudinally striate or wrinkled, with minute cross-reticulations between; second segment more finely striate at base, the striae weaker beyond and disappearing before the hind margin, sides shagreened; third finely striate at extreme base and very faintly so beyond the disc, its apex and the following segments shining, faintly shagreened. First segment gradually widened behind, apex less than twice as wide as the base; length one and one-half times the apical width; second segment at apex more than twice as broad as long, the suturiform articulation straight, indistinctly impressed; third segment with a shallow curved impression at base, extending from the anterior angles to the basal third of the segment on the median line: second third and fourth segments of about equal length, fifth longer, sixth half as long. Median vein strongly bowed downwards on its apical half, nervulus very slightly postfurcal; upper discoidal cell with its sides and ends parallel: lower discoidal nearly four times as long as high; recurrent nervure interstitial: radial cell ending not far before the wing tip, the third section of the radius as long as the second

and the very short first together; second cubital cell parallel, its upper side less than twice as long as its apex; stigma narrow, emitting the radius beyond its middle; radius of hind wing obsolete, the submedian cell less than one-third as long as the median.

Type from Cape Town (L. Péringuey), 1909.

This is a true *Hormiopterus* as limited by Enderlein (1912), the first one to be described from this region.

SUBFAMILY PAMBOLINAE.

Gen. PAMBOLUS, Hal.

PAMBOLUS ACICULATUS, sp. nov.

♀. Length 2 mm. Uniformly fulvous, the antennae becoming darker beyond the middle and piceous at the tips. Wings entirely absent. Head but little wider than thick; the eyes strongly protuberant, nearly circular, with large ommatidia. Ocelli very small, in an equilateral triangle, the paired ones one-half farther from the eye than from one another; head rounded and narrowed behind the eyes, the occiput and temples strongly margined. Antennae 15-jointed, a little longer than the body; scape short, pedicel rounded; first flagellar joint one-half longer than the scape and distinctly longer than the second; following gradually shorter, none less than three times as long as thick. Surface of head shining, with a faint trace of sculpture. Thorax more than twice as long as wide; very coarsely reticulated; prothorax visible from above as a broad collar; mesonotum much widened behind; tegulae reduced to very minute scales. Scutellum with an acute erect tooth; propodeum obliquely sloped. Pleurae more or less finely aciculate; mesopleura partly smooth. Abdomen regularly oval, more than twice as wide as the thorax and distinctly longer than the head and thorax combined; twice as long as wide; second segment slightly longer than the third and twice as long as the first; first segment with a transverse carina at the base, longitudinally aciculate, the lines extending to the second segment, but becoming finer and nearly obsolete before its apex; both sutures distinct the first deeper and broader; third segment shining, with the faintest trace of some longitudinal aciculations. Legs long and slender.

Type from Cape Town, April, 1886.

This is the first species of the genus to be discovered in the southern part of Africa. It should be recognized by the 15-jointed antennae and the configuration of the abdomen.

SUBFAMILY BRACONINAE.

MICROBRACON, ASHM.

There are several species in the present collection which I have referred provisionally to this genus. Some could easily be placed in other genera that have been segregated from the old genus Bracon (*sensu auctorum*). One or two others might be made types of new genera, but the time does not seem ripe to attempt any grouping that can be of permanent value, for it is very evident that only a small part of the existing species have been studied. The following key will serve readily to distinguish those here included. *M. howardi* Viereck from Mozambique is different from any of these species. *M. latilineatus* and *M. propinquus* described by Cameron from the collections of the Berlin Zoological Museum, I have not seen and could not be included in the key.

Key to species.

1. Hind femur enlarged, with a long tooth below near the middle
(*Braconella*) *minor* Szépligeti.
- Hind femur normal, without tooth 2.
2. Mesonotum shagreened, opaque 3.
- Mesonotum shining, more or less punctate 7.
3. Propodeum with a longitudinal groove or carina, extending for its entire length 4.
- Propodeum without a median carina or groove, except sometimes toward apex 5.
4. Head black, abdomen pale with segments three and four black; antennae entirely black *latifasciatus* sp. nov.
- Head and abdomen pale; antennae black, with a pale annulus
annulicornis sp. nov.
5. Head and thorax black, sharply maculate with pale yellow; abdomen pale at base, with black apex *hieroglyphicus* sp. nov.
- Thorax not clearly maculate 6.
6. Second section of radius twice as long as the second transverse cubitus
zuluorum sp. nov.
- Second section of radius not longer than the second transverse cubitus
jonesi sp. nov.
7. Antennae 14-jointed, scarcely more than half as long as the body
curticornis sp. nov.
- Antennae many-jointed, of the usual length. 8.
8. Apex of first discoidal cell not much narrower than the base 12.
- Apex of first discoidal cell only about half as wide as the base; abdomen more distinctly sculptured and usually more or less opaque 9.

9. Second segment finely rugose; following shining, sparingly shagreened; abdomen black. *ceres* sp. nov.
 Second segment sculptured like the third, abdomen pale 10.
10. Second abdominal segment with a small, distinct raised median area 11.
 Second segment without a raised median area although faintly striate, with the striae divergent at this point; in great part black (cf. also *Bracon celer* Szep.) *sesamiae* Cam.
11. Second and third segments minutely rugose-reticulate, shining; following segments smooth *monitor* sp. nov.
 Abdomen minutely rugulose, surface opaque. 13.
12. Abdomen shining, fulvous, delicately shagreened; wings hyaline; legs pale *postfurcalis* sp. nov.
 Abdomen rugose throughout, light yellow at base, piceous apically; wings infuscated; legs wholly black. *sectator* sp. nov.
13. Base of second segment with three smooth raised areas at base, a median one and one to each side; mesonotum black, with a large central white area *tuckeri* sp. nov.
 Base of second segment with only the usual median area; mesonotum fulvous *praeceptor* sp. nov.

MICROBRACON (*Braconella*) minor SZÉPLIGESI.

Ann. Mus. Nat. Hungarici, vol. 4, p. 587. (1906).

♀. Length 3.5 mm.. Black, varied with yellowish and ferruginous. Head and temples below the level of the antennae pale honey yellow, including the palpi and an orbital stripe, widened above tegulae, and propleurae ferruginous; abdomen to apex of fifth segment ferruginous; front legs entirely, middle ones beyond coxae, and trochanters, tips of femora, basal half of tibiae, calcaria, and four apical joints of tarsi of hind pair, pale ferruginous; wings subhyaline, stigma and veins black. Body, especially the thorax and hind legs, clothed with short white pubescence. Head transverse, almost twice as broad as long, rounded and narrowed behind the eyes; occiput shining, faintly shagreened; front subopaque, more coarsely shagreened; ocelli on a triangular tubercle which is as broad as its distance from the eye; face rugose; eyes scarcely emarginate opposite the antennae; malar space as long as the diameter of the antennal scape; antennae 27-jointed; scape twice as long as thick: first and second joints of flagellum subequal, less than twice as long as thick; joints near middle slightly shorter, apex becoming very slender. Mesonotum with broad shallow furrows that spread out behind to form a flattened triangular area before the sides of the scutellum: surface shining, faintly rugose-punctate; scutellum with a punctate furrow at base, nearly smooth, as long as broad. Propodeum without

furrow or median carina, its posterior slope smooth and polished; base and sides finely rugose punctate. Abdomen rather broad, its surface opaque, very finely rugose; first segment with the apical area finely sculptured, twice as wide as the smooth lateral space; no distinct lateral carinae; second segment as long as broad at base, with no tubercles or distinct grooves: third segment two-thirds as long as the second, separated by an arcuate, feebly crenulated furrow; third segment with faint indications of separated anterior angles; this and following segments not rimmed apically. Mesopleura with trace of a furrow below, shining, with delicate rugoso-punctate sculpture; metapleura separated from propodeum by a deeply impressed furrow below the round spiracle. Four anterior legs as usual; hind pair distinctly thickened, the femora with a long slender, oblique tooth below at the middle, directed toward the knee; femora broad, much compressed; tibiae very strongly compressed as is also the metatarsus in a lesser degree. Radial cell extending almost to wing-tip; radial vein issuing from middle of stigma, its first section two-thirds as long as the second; third as long as the other two combined; second cubital cell not narrowed toward tip, its apex half as long as its upper side; first discoidal cell with a short petiole, its upper and lower sides but weakly convergent; recurrent nervure received nearly its own length before the apex of the first cubital cell.

A specimen from Mfongosi, Zululand (W. E. Jones), April 1917; and a second one from Bulawayo, S. Rhodesia, (H. C. Pead), 1911.

The toothed hind femora are quite an unique character recalling those of *Helcon* or of certain Ichneumonidae. Otherwise the species presents no striking peculiarities which would set it off from many species of the *Microbracon*. In the specimen from Bulawayo the abdomen is dark basally on to the third-segment and the third and following have the apical margin pale. Originally described from Tanganyika Territory.

MICROBRACON ANNULICORNIS, sp. nov.

♀. Length 5 mm. Yellow and ferruginous, varied with black on the thorax and apex of abdomen. Head pale honey yellow, the face and cheeks light testaceous, ocellar space black, antennae black with a pale annulus, with basal two joints ferruginous; thorax ferruginous; propodeum above, a spot on mesonotum behind tegulae and a spot on mesopleura black; legs yellowish, fourth abdominal segment somewhat infuscated. Head twice as wide as thick, sharply narrowed behind the eyes; vertex and front finely shagreened; ocelli on a rounded tubercle that is scarcely as wide as its distance from

the eye. Eyes faintly emarginate next to the antennae, their margins not convergent below; face finely rugulose; malar space as long as the thickness of the antennal scape. Antennae about as long as the body, with more than 29 joints (tips broken) joints 22-28 pale yellow, almost white; scape twice as long as thick; first and second joints of flagellum of equal length, each distinctly more than twice as long as thick; all joints longer than thick; apex of antenna not noticeably thinner than base of flagellum. Mesonotal furrows not very broad nor deeply impressed, their inner edges almost meeting behind, but the outer edges not defined, merging into the flattened surface of the mesonotum. Scutellum with a broad crenate furrow at base, not very convex. Propodeum finely rugulose at base, reticulated apically, with a deep median furrow on basal half; at apex with a median carina and several oblique striae connected with it. Sides of propodeum more noticeably white pubescent than the rest of the body. Abdomen rather short and broad, convex above; first segment reticulate, the median portion nearly an equilateral triangle, defined by an impressed line; side portion more than half as wide as the median lobe, depressed and smooth only along the lateral edge. Second segment much shorter than broad at base, finely striate-reticulate, with a tubercle medially at base, but without distinct basal area; sides without any grooves; suturiform articulation, rather broad and deep, striate, sloping forward toward the middle and also sharply at the lateral angles; third segment shorter than the second, sculptured like it at base, but a smoother apically, its anterior angles indistinctly set off by a curved, faintly impressed groove, without a distinct rim; following segments shagreened, successively smoother. Ovipositor slightly more than half the length of the body. Pleurae rather evenly shagreened, mesopleura without groove; with a small impression near the middle of the slope near the metapleura; metapleura with a groove above just below the small round spiracle. Legs slender. Wings subhyaline; stigma and veins nearly black; radius issuing from the middle of the wing and nearly attaining the wing tip, its first section less than half as long as the second; third as long as the other two together; second cubital cell distinctly narrowed toward apex; second transverse cubitus considerably shorter than half the second section of the radius; first discoidal cell with a short petiole, its upper and lower sides very strongly convergent; recurrent nerve received about two thirds its length before the apex of the first cubital cell.

Type from Mfongosi, Zululand (W. E. Jones), April, 1916. A second

specimen from the same place, April 1917 is considerably smaller (3.2 mm.) and has a noticeable carina at the sides of the lobe of the first abdominal segment. It is otherwise identical, including the pale annulus on the antenna.

MICROBRACON LATIFASCIATUS, sp. nov.

♀. Length 3-3.5 mm. Head and abdomen yellowish, second and third segments black; thorax mostly piceous; legs pale; wing subhyaline. Head brownish yellow, lighter below, infuscated medially above and on the occiput; ocellar spot black; thorax piceous; propleurae, upper part of mesopleura, tegulae and metapleura at base of hind wings yellow or brownish; posterior part of parapsidal grooves obscurely honey-yellow; abdomen pale yellow, the third segment, except the extreme basal angles, and the fourth segment entirely, black; legs brownish yellow, hind coxae black, last tarsal joint black; hind legs with the femora infuscated on apical half, the tibiae at tip and the tarsi beyond the base of the metatarsus. Head distinctly more than twice as broad as thick, very strongly narrowed behind the eyes. Ocellar tubercle as long as its distance from the eye-margin. Head above shagreened, shining; face minutely rugulose, the eyes convergent below and faintly emarginate opposite the antennae; malar space as long as the scape of the antenna. Antennae 26-jointed, brownish at base, black beyond; scape small, about twice as long as thick; first flagellar joint slightly longer than the second, nearly three times as long as thick; second to seventh subequal, twice as long as thick; apical joints gradually narrowed. Mesonotum coarsely shagreened and with well separated punctures intermixed. Parapsidal furrows strongly impressed, widened behind; mesonotum convex throughout. Scutellum convex, separated by a very broad and deep furrow at base. Propodeum shagreened, somewhat shining medially; with a median impression at the base, narrowed behind and giving place to a carina near the apex. Abdomen rugose reticulate, more finely so beyond the base of the third segment; first segment with a flat smooth space in the center, the apex and sides reticulated, with a triangular smooth lateral space where the segment is widened at apex. Second segment with a very poorly defined, small, elongate, posteriorly narrowed, median basal area, also with a distinctly impressed, broad, slightly crenulate groove extending from each basal angle backward and slightly inward to near the posterior margin; second segment two-thirds as long as the second medially, its anterior angles very weakly separated by a slight curved depression; third and following segments narrowly and weakly rimmed at apex. Ovi-

positor as long as the abdomen. Legs rather slender. Wings subhyaline; radial cell nearly reaching the wing-tip; stigma broad, the radius issuing from its middle, the first section slightly more than half the length of the second; third considerably longer than the other two together; second cubital cell scarcely narrowed apically, the second transverse cubitus nearly two thirds as long as the second section of the radius; first discoidal cell moderately narrowed toward apex; recurrent nervure received its own length before the apex of the first cubital cell.

Type from Mfongosi, Zululand (W. E. Jones), May 1916. Paratypes from the same place, April and May 1916.

MICROBRACON HIEROGLYPHICUS, sp. nov.

♂. Yellow and fulvous, boldly maculate with black; wings lightly infuscated, more distinctly so at base. Head pale yellow, black behind and on the ocellar space, the two black areas often broadly connected and extending to the antennae; posterior orbits always pale; antennae entirely black; mesonotum black, middle lobe broadly behind, and lateral lobes in front and on the sides to the tegulae, pale yellow; parapsidal furrows sometimes fulvous; scutellum yellow, sometimes with a black spot medially at base; propleura black; mesopleura entirely, and metapleura in front, varied with yellow and fulvous; abdomen pale yellow, black beyond the middle of third segment, although the black does not include the sides of the third and fourth nor the extreme base of the fourth segments; legs fulvous; the two or four posterior coxae and hind legs from near apex of the tibiae black. Head twice as broad as thick, very strongly and roundly narrowed behind the eyes; ocellar area very indistinctly raised. Head above and behind sub-shining, shagreened; face shining, very faintly shagreened; malar space distinctly shorter than the scape of antennae, face broad, eyes indistinctly emarginate opposite the antennae. Antennae 23-24 jointed; scape short and thick, but little longer than wide; first flagellar joint barely longer than the second, both about twice as long as thick; following very gradually decreasing in length, the antenna gradually becoming very slender toward tip. Mesonotum with the parapsidal furrows weakly impressed, obsolete behind, convex in front, but with the middle lobe flat behind the middle. Scutellum separated by a very narrow, finely crenulate furrow, almost flat except at sides and apex. Propodeum shining, delicately shagreened, with a median carina on the apical half. Abdomen striate-reticulate on second and base of third segment, coarsely shagreened; first segment with the middle lobe convex, roughened, depressed at sides; between

the lobe and the sides with a rather prominent carina; second segment over half as long as wide at base, without median basal area or lateral grooves: third segment coarsely striate at base, fourth with a crenate furrow at base; edges of segments without distinct rim; posterior margin of second segment weakly emarginate at center, turned sharply forward at sides; lateral angles of third not separated. Legs slender. Wings with very broad stigma; radius issuing from its middle, reaching almost to the wing tip, its second section only one-third longer than the first; third much longer than the others together; second cubital cell short, distinctly narrowed apically, the second transverse cubitus almost as long as the second section of the radius; first discoidal cell not petiolate, basal vein twice as long as the recurrent nervure; recurrent nervure received in its own length before apex of first cubital cell.

Type and four paratypes from Mfongosi, Zululand (W. E. Jones), May 1917. The species is rather striking on account of its bold color pattern and sessile first discoidal cell.

MICROBRACON JONESI, sp. nov.

♀. Length 4.5 mm. Body, wings and antennae much more elongate than usual. Fulvous brown, only the last joint of the tarsi and the flagellum of antennae infuscated; wings hyaline with a yellowish tinge; stigma pale yellow, neuration piceous. Head twice as broad as thick, eyes very prominent, projecting much more than usual; temples full behind the eyes, then suddenly narrowed, occiput strongly concave; head above, and face shining, faintly shagreened; ocellar area convexly raised, farther from the eye-margin than its own width; face nearly twice as broad as high; eyes small, little higher than broad; malar space half the eye-height. Antennae incomplete in the type, with more than 25 joints: scape very broad at tip, no longer than thick; flagellar joints long and slender, increasing in thickness from the base to the 25th joint. First antennal joint distinctly longer than the second, nearly three times as long as thick, following gradually growing shorter. Mesonotum and scutellum rather shining, shagreened; parapsidal furrows broad and very deep in front, narrowed and disappearing behind at the middle of the mesonotum; middle lobe convex and suddenly declivous in front; slightly concave behind; disc of scutellum flat, with an impression in the middle, its base separated by a broad, shallow, crenulate furrow. Propodeum short, rugulose, without median line or furrow, below the spiracle with a groove separating it from the metapleura. First segment of abdomen flat at base, apically convex and roughened, except for the smooth depressed

sides, which are not separated by a distinct carina. Second and third segments very finely reticulate-striate, following ones more still finely reticulate or shagreened. Second segment nearly as long as broad at base, without basal area, but with a sharply defined, delicately crenulate furrow on each side extending from the anterior margin near the lateral angle to the posterior margin just outside the median line: posterior margin defined by an evenly curved, shallow, finely striated, rather broad furrow; third to sixth segments scarcely decreasing in length, with a polished hind margin; anterior angles of the third not separated nor produced forward: the whole abdomen nearly flat above and elongate oval, its greatest width less than half its length from the base of the second to tip of eighth segment. Legs slender. Stigma rather narrow, the radius originating beyond its middle and ending distinctly before the wing tip; second section scarcely shorter than the first; third over twice as long as the other two together; second cubital cell scarcely narrowed toward tip; second transverse cubitus as long as the second section of the radius; first discoidal cell large, scarcely petiolate, distinctly narrowed apically although the recurrent nervure is as long as the first section of the cubitus; the former received less than its own length before the tip of the first cubital cell; nervellus originating just below the middle of the transverse discoidal vein. Ovipositor two-thirds as long as the abdomen.

Type from Mfongosi, Zululand (W. E. Jones), April 1917.

This species is more elongate than usual, with the abdomen less convex above and with very clearly marked grooves on the second segment.

MICROBRACON ZULUORUM, sp. nov.

♂. Length 2.8 mm. Brownish yellow, brighter on the head; ocellar space and antennae, middle lobe of mesonotum in front and the parapsides black; extreme tips of tarsi and abdomen, except at sides, infuscated. Wings nearly hyaline, stigma yellowish, venation fuscous. Head twice as wide as thick, strongly and rapidly narrowed behind the eyes; ocellar area strongly elevated, its diameter less than its distance from the eyes. Head above finely shagreened; face more coarsely so and less shining, somewhat broader than long; eyes scarcely emarginate opposite the antennae, rather large, the malar space nearly as long as the scape. Antennae 28-jointed, gradually becoming very slender toward the tips; scape narrow at base, widened apically, as broad as long; first and second joints of flagellum of equal length, each slightly more than twice as long as thick; those

immediately beyond scarcely shorter. Mesonotum moderately convex above, elevated, although the parapsidal furrows are not strongly impressed in front and disappear at the middle where they widen out to form a large flattened space on each side of the median line. Scutellum only slightly convex, with a rather broad but very shallow and weakly crenulated furrow at the base; entire mesonotum and scutellum shining and coarsely shagreened. Propodeum coarsely shagreened, with a median carina at the extreme apex and with a large curved furrow below the spiracle. First abdominal segment with the median part flat and much depressed, reticulate at apex, otherwise smooth; sides raised, reticulate and with a deeply impressed narrow line very close to the lateral margin. Second segment rugose-reticulate, more coarsely so at middle, coarsely shagreened at apex as is the entire surface of all of the following segments; considerably shorter than wide at base; without median basal area; its posterior margin straight at the middle but curved forward at the sides; its disk with a crenulated groove on each side arising near the anterior angle and sloping inward to end before the posterior margin at a considerable distance from the median line; suture at base of third segment rather deep, crenulated except at the lateral angles which are not distinctly separated by a groove; third segment smooth and with a slight rim on the posterior edge; pleurae uniformly shagreened. Legs slender. Ovipositor nearly as long as the abdomen. Wings with the stigma rather narrow, the radius issuing barely before its middle and extending quite to the extreme tip of the wing; its second section twice as long as the first, third equalling the others together; second cubital cell not narrowed toward apex, the second transverse cubitus nearly hyaline, less than half as long as the second section of the cubitus; first discoidal cell hardly petiolate, strongly narrowed apically, the recurrent nervure being about two thirds as long as the basal vein; recurrent nervure entering the first cubital cell less than its own length before the tip of the cell.

Type from Mfongosi, Zululand (W. E. Jones), March 1917.

MICROBRACON CURTICORNIS, sp. nov.

♀. Length 2.5 m.m. Black, conspicuously clothed with white hairs; the head, parapsidal grooves, large area on mesonotum and pleural spot, yellow; legs infuscated; wings distinctly brown basally, hyaline beyond the stigma; stigma and venation piceous, except basal section of cubitus, and second transverse cubitus, which are pale. Head less than twice as broad as thick, rather full behind the eyes, then suddenly narrowed; posterior surface and ocellar area

black, the latter moderately elevated, separated by its own width from the eye-margin; head shagreened, shining above, less so on the face, which is nearly twice as wide as long. Eyes rather small, the malar space somewhat longer than the scape of the antennae. Antennae 14-jointed, very short and stout, when folded back, barely attaining the apex of the thorax; scape swollen toward apex, but nearly twice as long as thick; first flagellar joint more slender and slightly longer than the second, which is scarcely longer than thick; following nearly quadrate, of equal width except for the more slender apical joint. Mesonotum and scutellum smooth and polished; the mesonotum very convex anteriorly with no impressed parapsidal furrows, although these are indicated by broad yellow stripes connected with a large quadrate yellow spot before the scutellum; mesonotum flat behind; scutellum nearly flat, separated at base by a narrow crenulate groove. Propodeum without median groove or carina, shagreened, shining, with a nearly straight groove below the spiracle. First segment of abdomen with the median lobe convex, shining, bordered on each side by a broad flat yellow space of equal width, separated from the lobe by a fine, impressed line. Second to fourth segments gradually decreasing in length, all the sutures very faintly impressed and smooth; surface shining, sparsely shagreened on the second and third segments; second one third shorter than wide at base, on each side with a short, oblique, smooth groove extending halfway to apex; abdomen only slightly convex and but little widened at the middle. Ovipositor half the length of the abdomen. Mesopleura smooth and polished, except anteriorly above. Legs rather slender, brownish, with the coxae and the trochanters and base of the four hind legs more or less blackish or fuscous. Stigma broad, the radius issuing from its middle and ending a considerable distance before the wing tip, its second section but little longer than the first; third nearly one-half longer than the other two together; second cubital cell slightly narrowed toward apex, its lower side convex; second transverse cubitus nearly as long as the second section of the radius; cubitus extending scarcely beyond the second cubital cell; first discoidal cell with a very short petiole, strongly narrowed toward apex, the recurrent nervure being only slightly more than half as long as the basal vein; recurrent nervure received less than its own length before the apex of the first cubital cell.

Type from Cape Town, 1915 (L. Péringuey).

MICROBRACON POSTFURCALIS, sp. nov.

♀. Length 3.5 mm. Bright fulvo-ferruginous, the head including antennae, black, except for a short orbital stripe at the top of the eye. Wings rather strongly infuscated, stigma black, venation piceous. Head more than twice as broad as thick, rapidly narrowed behind the eyes, the occiput broadly emarginate; ocellar space strongly elevated, separated from the eye-margin by considerably more than its own width, vertex smooth and polished, viewed from the front its sides are seen to be strongly curved downwards; eyes not emarginate, highly convex, rather large, although the malar space is nearly as long as the antennal scape; face one-half wider than high, its surface subshining, shagreened. Antennae with more than 21 joints (tips broken), stout gradually tapering beyond the middle; scape nearly twice as long as thick: second flagellar joint distinctly longer than the first, about one-half longer than thick, others more nearly quadrate. Mesonotum convex throughout, with complete, smooth, distinctly impressed parapsidal furrows that converge only very slightly behind. Scutellum convex, separated by a smooth, straight furrow at base. Propodeum smooth, polished, without median groove or furrow: laterally with a straight furrow below the spiracle. Pleurae entirely smooth and shining. First segment of abdomen with the median lobe large, pyriform, smooth, only slightly convex; lateral portion depressed, broken by a short oblique carina at the middle. Second and following segments rather shining, but distinctly shagreened, broad and strongly convex: second segment entirely without median basal area or lateral grooves, the suturiform articulation narrow, straight and crenulate for its entire length; second segment only half as long as wide at the base; third segment as long as the second, without rim posteriorly or any groove at the anterior angles. Entire abdomen broad and short. Ovipositor as long as the abdomen. Wings rather long; stigma very narrow, the radius issuing at its middle and extending almost to the wing tip; second section of radius nearly twice as long as the first; third equal to the other two together. Submedian cell longer than the median by about twice the thickness of the basal vein; first discoidal cell with a distinct petiole, but little narrowed toward apex; recurrent nervure entering the first cubital cell near its tip; second cubital cell not narrowed apically, the second transverse cubitus two-thirds as long as the second section of the radius, cubitus extending to the wing tip. Legs stout, especially the hind pair and with very strong tibial spurs.

Type from Mfongosi, Zululand (W. E. Jones), April 1915.

This species will be readily distinguished by the form of the antennae and mesothorax. As in some species of *Iphiaulax*, the submedian cell is quite distinctly longer than the median.

MICROBRACON TUCKERI, sp. nov.

♂. Length 5 mm.. Fulvous, maculate with black, yellow and cream-white. Head yellow, with a broad black stripe above from the antennae to the occiput; mesonotum black, with the middle lobe, except its anterior third, cream-white; marked with pale yellow as follows; stripe below each antennae extending down the inner and lower orbits, streak along lower margin of pronotum, large spot on mesopleura above, and lateral triangles of first abdominal segment. Wings slightly infuscated, especially at base; stigma black, with the base white; veins dark fuscous. Head scarcely broader than thick, the temples full; occiput not excavated; ocellar triangle as long as its distance from the eye-margin; head shining above; face very minutely rugose; eyes small, very nearly round; malar space one-fourth the diameter of the eye, without furrow; antennae 31-jointed; first flagellar joint no longer than the second, each twice as long as thick, following joints growing shorter. Mesonotum smooth and polished, without any indications of parapsidal furrows; propodeum smooth, without median keel or groove. Abdomen finely, longitudinally rugose-reticulate, much more finely so beyond the fourth segment; suturiform articulation striated, broad medially and narrower laterally, where it gives off a faint backward branch which limits the edge of an indistinctly separated corner on the third segment. First segment as broad as long, middle portion convex, rugose, the side-pieces separated by a crenate line, lateral triangles twice as long as wide. Second segment twice as wide as long, the posterior margin suddenly curved forward at the sides; anterior median area distinct, smooth, triangular; on each side of this and contiguous with it on the basal margin, is a similar, larger, smooth, convex triangle of nearly equilateral form which does not attain the anterior corner of the segment, its is bounded outwardly by a broad shallow impression that extends nearly to the posterior suture. Third segment shorter and wider than the second; fourth narrower and shorter; fifth much narrowed, a little longer than the fourth; sixth minute; third to fifth with a slightly raised posterior rim. Radial cell nearly reaching the wing-tip, radius issuing from just before the middle of the stigma; first section of radius half as long as the second; third as long as the two preceding; second cubital cell parallel, the second

transverse cubitus not quite half as long as the second section of the radius; recurrent nervure received half its length before the apex of the first cubital cell; first discoidal cell not strongly narrowed apically, petiolate above; nervulus interstitial.

Type from Nuragas, S. W. Africa (R. W. Tucker), Jan. 1920.

In the cubical head and the three basal triangles on the second abdominal segment, this is a most unusual species. For these characters, it might easily be placed in another genus. I cannot find any other so far described into which it will fit and for obvious reasons, do not wish to propose one for an isolated species. It ought to be sought for here on account of its size, habitus and other characters.

MICROBRACON PRAECEPTOR, sp. nov.

♀. Length 4.5 mm. Fulvous, the abdomen more yellowish with iufuscated apex; ocellar area, occiput medially and antennae black; tegulae, last joint of tarsi and part of hind coxae dark brown; apical half of hind tibiae and their tarsi, except fourth joint, piceous. Wings hyaline, stigma and venation piceous. Head less than twice as wide as thick, rather full and less narrowed than usual behind the eyes; occiput narrowly emarginate. Ocellar area large, but little elevated, separated by its width from the eye margin. Vertex smooth, shining, front and face shagreened, the latter one half wider than long. Malar space as long as the antennal scape; head behind the eyes faintly vertically aciculate. Mesonotum strongly convex in front, with deeply impressed, crenulated, parallel parapsidal furrows which fade out behind. Scutellum nearly flat, with a broad, strongly crenulate furrow at the base. Propodeum smooth at the sides, shagreened on the disk, with a broad shallow median impression at base and a short carina at extreme apex in front of which are several v-shaped carinae; below the spiracle with a broad shallow straight furrow. Pleura shining, slightly shagreened. Abdomen short, broad and convex. First segment with the median lobe short and broad, obtusely pointed in front; flat and smooth, except at apex, where it is reticulated; between the lobe and the sides with a carina on each side, the carinae parallel; depressed sides of the segment triangular, not extending to the base. Second to fourth segments reticulated, very finely so on the third and fourth and somewhat more coarsely so on the base of the second; second segment three times as wide at the base as long on the median line, its posterior margin broadly curved forwards toward the middle and sharply so at the sides; medially at the base with a distinct, raised.

although not entirely smooth area, that is continued to the apex of the segment as a narrow ridge; no distinct grooves at the sides although there is an indefinite longitudinal impression on each side. Sutureform articulation broad, striated, more coarsely so near the middle. Third segment as long as the second along the median line; posterior edge of third to fifth segments smooth and forming a rim between the margin and a slightly impressed submarginal line. Third segment with an indistinctly raised area near the anterior angles, the fourth with a quite distinct small tubercle at this point. Ovipositor longer than the abdomen. Legs rather stout and noticeably clothed with white hairs, as is also the rest of the body. Stigma broad, emitting the radial vein just before its middle; second section of radius not quite twice as long as the first; third slightly longer than the other two together; second cubital cell not narrowed toward apex. the second transverse cubitus two-thirds as long as the second section of the radius; first discoidal cell with a rather long petiole, strongly narrowed toward apex; recurrent nervure received nearly its length before the tip of the first cubital cell; submedian cell barely longer than the median; cubital vein weak near the apex.

Type from Mfongosi, Zululand (W. E. Jones), April 1917.

MICROBRACON CERES, sp. nov.

♀. Length 3 mm. Long and slender, strongly pubescent; more or less piceous, with lighter markings on the thorax above. Head and abdomen piceous, the basal two segments more brownish; mesonotum with the middle lobe in front and the lateral lobes, except anteriorly and at the extreme side, black, elsewhere and also the scutellum and sides of the propodeum honey yellow. Head below yellowish, palpi black. Wings subhyaline, stigma pale brownish, venation dark fuscous. Head less than twice as broad as thick, the temples short and rather rapidly narrowed behind the eyes; occiput not excavated; head above smooth and polished, the ocellar area raised, as broad as its distance from the eye-margin. Face but little wider than long, shagreened; malar space as long as the antennal scape. Antennae more than 37-jointed (tips broken) slender and of uniform thickness for most of their length; scape a little longer than broad; first and second flagellar joints of equal length, each more than twice as long as thick; following slightly shorter and thicker. Mesonotum long, shining, with obscure scattered punctures behind on the flat central portion; parapsidal furrows impressed only on the anterior half. Scutellum rather convex, with a strong crenate furrow at the base. Propodeum with the surface shining but un-

even, with a median groove distinct on basal half. Abdomen long and slender; first segment with the median lobe shining, convex, its sides nearly parallel except at base, bordered laterally by a groove, followed by a broad ridge before the depressed side-piece which extends nearly to the base of the segment. Second segment with a minute shining tubercle medially at the base, continued posteriorly to the middle of the segment as a slight ridge; surface minutely reticulate or tuberculate; as long as wide at the base; suturiform articulation broad, crenulate, other sutures not impressed. Third and following segments shining almost smooth, the third to seventh of nearly equal length; second and third with no indications of lateral areas or grooves. Legs very slender. Stigma narrow, emitting the radius from near its middle, the radius nearly attaining the wing-tip; first section less than half as long as the second, third as long as the other two together; second cubital cell narrowed toward apex. the second transverse cubitus half as long as the second section of the radius; first discoidal cell with a rather long petiole, strongly narrowed toward apex; recurrent nervure entering the first cubital cell near the apex; cubital vein extending nearly to the margin of the wing. Ovipositor one-third as long as the abdomen.

Type from Matroosberg, Ceres Division, Cape. 3500 feet. November, 1917. (R. M. Lightfoot).

MICROBRACON MONITOR, sp. nov.

♀. Length 3.2 mm.; ovipositor as long as the abdomen. Bright fulvo-ferruginous; antennae black; ocellar space and posterior portion of occiput, connected by a broad stripe, black; mesonotum on each side with a large spot near the tegula, and postscutellum and lower part of mesopleura, black: four anterior tarsi fuscous with the apical joint black, hind ones entirely black. Wings slightly brownish; stigma black, veins dark brown. Head less than twice as broad as thick, roundly narrowed behind, ocellar triangle removed by more than its diameter from the eye; vertex smooth and shining; front shagreened, subopaque; eyes more distinctly hairy than usual; malar space almost as long as the antennal scape. Antennae 26-jointed; scape less than twice as long as thick: pedicel quadrate, two-thirds as long as the first flagellar joint which is over twice as long as thick: next several joints about as long as the first flagellar, following becoming gradually shorter and more slender. Mesonotum entirely smooth, with broad deeply impressed parapsidal furrows which become less distinct behind where the lateral lobes are flattened. Scutellum as long as broad, with a very coarsely crenulated or striate groove at the base. Propodeum

smooth and shining, without a median groove or line, its surface evenly convex. Propleura shining, with an oblique, coarsely crenulate oblique line in front. Mesopleura smooth and shining, with a curved, nearly vertical groove near the upper anterior corner and a foveate impression behind near the middle. Metapleura faintly sparsely punctate. First segment of abdomen with the middle lobe raised at apex, the sides smooth, flat. Second segment nearly twice as broad as long, the posterior margin sinuous, extending forward distinctly to the median line and more strongly so on each side; with a median raised tubercle at base, which extends narrowly to near the posterior margin, the narrow apical part bordered on each side by a short groove outside of which is a carina; its surface finely reticulate-rugose, shining. Anterior corners of second and third segments not separated; suturiform articulation deeply crenulate medially; third segment nearly as long medially as the second, similarly, but more finely sculptured, its narrow posterior border convex and smooth and shining; following segments faintly shagreened, shining, their posterior margins not reflexed. Legs moderate, noticeably white pilose, as are also the propodeum and metapleurae. Median and submedian cells of equal length; first discoidal cell with a short petiole, strongly narrowed apically, the apex not much more than half as high as the base; radial vein issuing from the middle of the stigma and extending nearly to the tip of the wing; second section slightly more than twice as long as the first, the two together as long as the third; second cubital cell slightly but distinctly narrowed toward tip, its apex nearly half as long as its upper side; recurrent nervure received almost its own length before the apex of the first cubital cell.

Type from Cape Province.

MICROBRACON SECTATOR sp. nov.

♀. Length 5.5 mm.; ovipositor as long as the abdomen, exclusive of the petiole. Black, varied with rufous on the head and thorax, and with pale yellowish brown on the abdomen; legs black, calcaria brown; body, especially propodeum and legs, strongly silvery pubescent; wings very noticeably infuscated. Head rufous, with a spot above, larger than the ocellar space, black. Thorax black, with the entire prothorax, humeral spot on mesonotum, mesopleura above and propodeum near hind coxae rufous or brownish. First two segments of abdomen and base of third and fourth testaceous yellow; apex and remainder of third and fourth segments piceous; stigma and venation black. Head nearly twice as wide as long, strongly, roundly narrowed behind the eyes; vertex and occiput shining; ocelli large, in a nearly

equilateral triangle, separated by about their own diameter, posterior ones more than twice as far from the eye as from one another; ocellar space strongly convex, surrounded by a distinct groove above and at sides; front deeply and broadly impressed medially, its surface smooth but opaque; face very irregularly reticulated; malar space as long as the antennal scape. Antennae with 36 joints; scape short, curved, twice as long as thick; pedicel a little shorter than thick; first and second flagellar joints equal, each one-half longer than wide; following very gradually shorter and more slender, those beyond the middle quadrate. Mesonotum smooth and shining, with deep parapsidal furrows which are triangularly widened only at extreme posterior end; scutellum slightly longer than wide, smooth, with a broad crenate groove at base. Propodeum short, rounded, punctulate, except at apex; no median groove or carina; subspiracular groove deep and narrow. Median lobe of first abdominal segment broad, with a median groove, its surface finely longitudinally striate-reticulate, sides nearly smooth; posterior angles depressed and separated. Second segment half as long as wide at apex, its posterior margin only slightly sinuate; surface finely longitudinally rugose-reticulate; its corners and those of the third segment not separated; suturiform articulation narrow, crenulate; third segment considerably wider and a little shorter than the second, with a smooth, faintly raised posterior border; sculptured like the second as are also the fourth to seventh. Pleurae smooth and polished. Legs very stout; femora simple; hind tibiae noticeably flattened, as wide as the eye. Radius emerging from the middle of the stigma and extending almost to the tip of wing, first section half as long as the second, third as long as the other two; second cubital cell slightly widened toward apex, the second transverse cubitus very oblique, irregular, more or less parallel to the first; the apex of the second cubital cell more than half as long as its anterior side; first discoidal cell with a rather short petiole, only slightly narrowed apically; recurrent nervure received near the apex of the first cubital cell.

Type from Durban, Natal (W. Haygarth), April 1913.

EUROBRACON, Ashmead.

EUROBRACON (?) MANDIBULARIS, sp. nov.

♀. Length 12 mm.; ovipositor 52 mm. Rufro-ferruginous, the head lighter and the propodeum darker at apex; propleurae and mesopleurae anteriorly more or less fuscous; antennae, hind tibiae, excepting their spurs, and hind tarsi black; sheaths of ovipositor

black. Wings pale yellow, marked with blackish as follows; a spot in the basal corner of the first discoidal cell extending halfway across the basal cell from the middle of the basal vein and into the upper apical quarter of the lower discoidal cell, a spot toward the base of the second cubital cell extending into the apex of the first cubital cell and well into the base of the radial cell, an apical crescentic band extending around the wing apex from apical third of radial cell to curve forward and nearly meet the second wing spot; this band thickest at the wing apex; hind wing with a band at middle, not quite reaching the fore margin and narrowly connected behind with a dark spot which includes the apical fifth of the wing. Head, seen from above little wider than thick, the temples as deep as the width of the eyes, roundly narrowed on their posterior half; occiput not at all excavated; vertex convex; front feebly excavated above the antennae; ocelli very large, in an equilateral triangle, less than half their diameter from one another; ocellar area separated by a fine depressed line, more than its own width from the eye-margin. Face nearly twice as wide as high, with a median shield-shaped convex area midway between the antennae and the oral margin; the latter weakly arcuately incised from the outer corner of the mandible, making the mouth open very broad and not circular; clypeal foveae small, very deep. Malar space short, one-fourth as long as the eye-width, with a very obscure furrow. Mandibles very large, almost as broad as the eye at base, the outer edge bent nearly at right angles at the middle, apex rather acute; the lateral articulations of the mandibles so far apart that the head appears scarcely narrowed below the eyes. Head shining, with scattered punctures on the clypeus and base of mandibles and with a few short striae between the eyes and the sides of the clypeus. Mesonotum smooth, highly convex, without furrows. Scutellum nearly flat on the disk, raised above the mesonotum, without distinct groove at base. Propodeum smooth and shining, with long sparse pale hairs, with a groove extending from near the base to the tip just below the elongate-oval spiracle. Pleurae smooth and shining. Abdomen long, no wider than the thorax. First segment less than twice as long as wide at tip, median lobe occupying most of its surface, convex, smooth; separated from the lateral flat border by a groove behind the spiracle and by a triangular basal lateral lobe before the spiracle. Second segment slightly longer than broad at base, coarsely but irregularly and closely longitudinally striate; smooth medially at extreme base and on posterior margin; without grooves or tubercles except for a

weakly curved, poorly defined impression between the anterior angles; suturiform articulation smooth, not deep, nearly straight; third segment nearly as long as the first, striate like the second at base, the striae very short at the sides, but extending past the middle on the median portion; its lateral angles not separated; fourth and fifth segments smooth, each two-thirds as long as the third; remaining segments very short. Legs slender, simple; hind coxae elongate, nearly three times as long as thick. Transverse median vein interstitial; first discoidal cell with a short petiole, but little narrowed apically; subdiscoidal vein arising at the lower third of the cell. Radius originating at the middle of the rather narrow stigma and extending nearly to the tip of the wing, its first section one third as long as the second; third as long as the other two; second cubital cell with parallel sides, the second transverse cubitus half as long as the second section of the radius. Stigma and venation honey-yellow.

Type from „Beach” Durban (Natal) (H. W. Marley), 1900.

This species will be easily recognized by the color pattern of the wings and long ovipositor. The peculiar form of the very large mandibles and the consequently greatly modified clypeal excavation are not those of a typical Braconine. Taken by itself, the species might seem entitled to generic rank, but I do not doubt that transitional species will be found. I have placed it provisionally in *Euurobracon* as it appears to be similar in the form of the head to *E. quadriceps* Smith. However, the nervulus is interstitial, whereas in the true *Euurobracon* it is postfurcal although in Ashmead's figure (P. U. S. Nat. Mus. vol. 30, pl. 25 (1906) it is shown to be almost interstitial. On this account the genus has been placed in the *Exothecinae* by Szépligeti and Roman.

IPHIAULAX, Förster.

This very extensive and highly polymorphic genus is represented in South Africa, as in most of the warmer portions of the world, by a large number of species. Some of these enjoy a wide range, extending from Equatorial Africa to the Cape, while others appear to have a much more limited distribution, at least in the present state of our knowledge.

Several of the South African species date back to Brullé's "Histoire Naturelle des Insectes Hyménoptères" published 1846 and most of these are recognizable from his descriptions which usually include the salient structural characters. So much cannot be said for the descriptions of some of the later hymenopterists and I have been

unable to place some species. Fortunately many of Cameron's species are represented in the material before me, much of which has been compared with Cameron's types in the South African Museum by Dr. Péringuey. Some of his species I have unfortunately not been able to place as they do not seem to be represented in the present collection and the types are not available for comparison. The same is true of several of Szépligeti's species. Omitting these and a few others, I have compiled a key which will, I think serve for the identification of the remaining species known to occur in South Africa, including a few which are undoubtedly new.

Szépligeti has attempted to divide *Iphiaulax* in a number of genera or subgenera, but these are not taken into account, as I do not believe that they are defined by sufficiently clear-cut characters to assist in the classification of the group. On the other hand, the following table is artificial and makes no attempt to group the species according to their natural affinities.

Key to species of Iphiaulax (sens lat.).

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|--|-----|
| 1. Anterior wings yellow from their bases to the apex of the stigma; black apically, sometimes with a small hyaline area | 6. |
| Wings not colored thus; at least some dark marking between the base and stigma; often almost, or entirely black | 2. |
| 2. Wings for a short distance at the base, at least nearly half the length of the submedian cell, clear yellow; beyond uniformly black or banded or spotted with black | 12. |
| Wings of different color; never yellow or conspicuously lighter at the base | 3. |
| 3. Second abdominal segment with distinct sculpture, either striate, punctate, or rugose, or with these in combination | 4. |
| Second abdominal segment with the surface smooth and polished | 32. |
| 4. Legs entirely black | 33. |
| Legs rufous, ferruginous or lighter; sometimes the hind tibiae and tarsi black or the legs distinctly bicolored. | 5. |
| 5. Entire stigma blood-red or coccineous, rarely yellowish, always without black at apex; costa often red also | 42. |
| Stigma yellow at base and black apically, or entirely black; costa never red | 57. |
| 6. At least the basal two segments of abdomen with longitudinal or oblique striae | 7. |
| Abdomen not longitudinally striated | 10. |
| 7. Ovipositor very long, nearly twice as long as the body; first four abdominal segments and basal middle of fifth segments striated (= <i>striatus</i> Szép.) | |
| <i>aethiopicus</i> Cam. | |
| Ovipositor shorter, not equalling the length of the body | 8. |

8. Four basal segments of abdomen striate 11.
 No striæ on the third and fourth segments; suturiform articulation deeply crenulate 9.
9. Basal two-thirds of second abdominal segment longitudinally striated; furrow on fourth and fifth segments crenulated *xanthocarpus* Cam.
 Sides of second segment with oblique coarse striæ; furrows of fourth and fifth segments smooth *phryganator* Thunb.
10. Ovipositor very short; second abdominal segment without a median keel beyond the basal area *ornaticollis* Cam.
 Ovipositor longer than abdomen; second segment with a median keel beyond the basal area (= *trimeni* Cam.) *xanthopterus* Cam.)
11. Striation of abdomen fine and close *odontoscapus* Cam.
 Striation of abdomen very coarse, striæ far apart *lugens* Brullé
12. Stigma entirely red *rubrinervis* Cam.
 Stigma yellow, usually black apically 13.
13. Abdomen smooth and shining, neither punctured nor striated
trichiosomus Cam.
 Basal segments of abdomen strongly sculptured 14.
14. Abdomen bicolored, yellow or red at base with one or several or all but the first segment black 15.
 Abdomen red or yellow, sometimes with some infuscated areas before the apex 19.
15. Wings with the pale band below the stigma extending entirely across the wing to the hind margin 16.
 Wings with the pale marking below the stigma not reaching the posterior margin of the wing and not forming a distinct band 18.
16. Abdomen black beyond the first segment; second segment with a large median basal shining area that extends toward the apex of the segment as a strong carina 17.
 Abdomen black only beyond the fourth segment; second segment without, or with a very small median basal area *minyias* sp. nov.
17. Second to fifth abdominal segments stoutly striated *basiornatus* Cam.
 Second to fifth segments without striæ except for a few short ones medially near the base of the third and fourth segments. *phosphor* sp. nov.
18. Abdomen black beyond the first segment; head and thorax yellow; hind femora black *proserpina* sp. nov.
 Abdomen black beyond the third or fourth segments 29.
19. Fifth segment of abdomen distinctly sculptured 20.
 Fifth segment of abdomen smooth and polished, rarely with faint trace of sculpture at center 23.
20. Hind tibiæ and their tarsi black entirely or in part; robust or moderately stout species 21.
 Hind tibiæ and their tarsi reddish, concolorous with the body; abdomen long and very slender *hesper* sp. nov.
21. A small species, 8 mm. in length, the ovipositor less than half as long as the body; tips of hind tibiæ and tips of their tarsal joints black
spilopus Cam.
 Larger species, hind tibiæ and tarsi entirely black 22.

22. Apical half of wings black, with yellow spots; large species with basal abdominal segments finely regularly striated
 (= *nobustus* Cam.) *martinii* Gribodo.
 Apical half of wings yellow with separated black markings; moderate sized species with the basal abdominal segments coarsely and irregularly striated *aurora* sp. nov.
23. Ovipositor as long as the body 26.
 Ovipositor less than half as long as the body 24.
24. Small species, 8—9 mm. in length 25.
 Large species, 15 mm. in length *mimetieus* Cam.
25. Legs entirely yellowish; second abdominal segment strongly striated;
rhodesianus Cam.
 Legs yellow, the hind tibiae and tarsi black; second abdominal segment smooth and shining *inanitus* Cam.
26. Wings black beyond the basal vein, with a broad yellow band of equal width below the stigma and a large oval yellow spot between this and apex; head black *minerva* sp. nov.
 Wings with the markings more diffuse and of different pattern 27.
27. Central convex area of first abdominal segment about twice as wide as the lateral smooth flat stripe; hind tibiae and tarsi black . . . *diana* sp. nov.
 Central convex area of first abdominal segment about four times as wide as the lateral stripe which is not flat nor smooth; legs concolorous with body 28.
28. Transverse median nervure interstitial, a rather slender species.
minyias sp. nov.
 Transverse median nervure distinctly postfurcal, a more robust species
iris sp. nov.
29. Abdomen black beyond the third segment; ovipositor longer than the body 30.
 Abdomen black beyond the fourth segment; ovipositor much shorter than the body 31.
30. Base of wing yellow to near the transverse median vein. *delagoaensis* Cam.
 Base of wing yellow only half way to the transverse median vein.
bicolor Brullé.
31. Ovipositor half as long as the body *xanthostomus* Cam.
 Ovipositor one-fourth as long as the body *litura* Brullé.
32. Raised median area at base of second segment longer than wide, drawn into a long pointed apex; wings with complete pale band below the stigma (= *levissimus* Cam.) *rubigator* Thumb.
 Raised median area as broad as long, not drawn out into a point behind; wings without complete pale band *bellona* sp. nov.
33. Fifth segment of abdomen sculptured, usually striate 34.
 Fifth segment smooth and shining, without sculpture 35.
34. Abdomen entirely black (= *pretoriaënsis* Cam.) *durbanensis* Cam.
 Abdomen almost entirely red, with a black discal spot on the second segment. (= *basimacula* Cam.) *nataliensis* Szép.
35. Ovipositor about the length of the body or very much shorter . . . 36.
 Ovipositor much longer than the body; second to fourth abdominal segments striated for their entire length, at least medially 40.

36. Ovipositor longer than the abdomen 37.
 Ovipositor not half the length of the abdomen; small species, length 7 mm.
mediator Cam.
37. Third and fourth segments of abdomen striate 38.
 Third and fourth segments of abdomen smooth 39.
38. Propodeum red, abdomen streaked with red medially; area on second
 abdominal segment clearly separated *rubrilineatus* Cam.
 Propodeum black; abdomen not streaked with red; area on second segment
 not clearly separated *varicollis* Cam.
39. Apical transverse furrows of third and fourth abdominal segments crenu-
 lated *longicoxis* Cam.
 Apical transverse furrows of third and fourth segments smooth.
meridionalis Cam.
40. Fifth abdominal segment with a basal and an apical transverse groove 41.
 Fifth segment without apical and with a very weak basal groove; area on
 second segment triangular, bordered by oblique, divergent striae
havilandi Cam.
41. Wings dark fuscous; ovipositor as long as the body; moderately large
 species, 13 mm. *hirticeps* Cam.
 Wings with a yellowish band below the stigma, ovipositor much longer
 than the body; very large species, 23 mm. *juno* sp. nov.
42. Only the basal two segments of abdomen sculptured; these striate; third
 segment smooth, except for the suturiform articulation; body black, spot-
 ted with red (= *coccineomaculatus* Cam.) *plurimacula* Brullé.
 At least the basal three segments of abdomen strongly sculptured; red
 species marked with black 43.
43. Abdomen wider at the apex of the third segment than at the base of the
 second 44.
 Abdomen wider at the base of the second segment than at the apex of
 the third *lucina* sp. nov.
44. Abdomen with segments four and five smooth and polished, without trace
 of sculpture, rarely with a faint sculpture at the middle of the disc. 45.
 Abdomen with segments four and five, or at least segment four entirely
 without any smooth and polished surface 51.
45. Tegulae red, concolorous with body 46.
 Tegulae black *tegularis* Szép.
46. Median raised part of first abdominal segment striate 47.
 Median lobe of first segment smooth, without striae *iphigenia* sp. nov.
47. Face coarsely rugose at the sides *vesta* sp. nov.
 Face nearly smooth, punctured very finely at center, more coarsely below
 on the sides 48.
48. Abdomen at base, with the sculpture forming longitudinal, more or less
 regular striae 49.
 Abdomen finely rugose-punctate *signatus* Brullé.
49. Third segment of abdomen rugose *lanceolatus* Szep.
 Third segment on basal portion distinctly striate 50.
50. Apical transverse furrow on segments four and five strongly foveate or
 crenulate *spilonotus* Cam.

- Apical transverse furrow on segment four and five smooth or with a few faint foveæ *varitinctus* Cam.
51. Fifth segment with its posterior angles distinctly produced, forming an acute angle, with the corner rounded; fifth segment in female smooth and polished at the sides between the basal and apical transverse furrows, in male uniformly rugulose *pandora* sp. nov.
- Fifth segment with its posterior angles not produced, but forming a right or obtuse angle with the corner rounded; fifth segment very rarely nearly smooth at the sides 52.
52. Fourth and fifth segments both similarly sculptured; densely rugose or rugose punctate except on the transverse grooves and sometimes at the sides 53.
- Fourth and fifth segments not thus sculptured; the sculpture, more sparse, or else that on the disc of the fifth much more sparse than that on the fourth 55.
53. Ovipositor slightly longer than the body; length of body 20 mm. *ruber* Bingham
- Ovipositor much shorter than the body; smaller species, length 6—8 mm. *decorus* Cam.
54. Lateral raised areas at the base of the second abdominal segment triangular, separated by a V-shaped depression, broader behind, but not forming a large oval shallow impression *whitei* Cam.
- Second segment with a large oval, rather shallow depression behind each of the lateral basal raised areas 55.
55. Raised area at basal lateral angle of second segment smooth; ovipositor as usual 56.
- Raised area at basal lateral angle of second segment roughly sculptured like the rest of the segment; hypopygium large, extruded, the ovipositor directed upwards *thisbe* sp. nov.
56. Posterior transverse groove on fourth and fifth segments very deeply impressed, the posterior margin of these segments far below the level of the disc. *incisus* Br.?
- Posterior transverse groove on fourth and fifth segments only slightly impressed, the posterior margin of the segments but slightly depressed *dodsi* Cam.
57. Stigma always pale, at least in part. 58.
- Stigma entirely black 66.
58. Abdomen with the fifth segment sculptured, at least at the base 59.
- Fifth segment entirely smooth and shining 65.
59. Posterior tarsi black, annulate with white at the base of the joints; small species (6 mm.) with short ovipositor *annulitarsis* Cam.
- Tarsi not annulate; usually larger species 60.
60. Sixth abdominal segment more strongly striated than the fifth *tacitus* Cam.
- Sixth segment smooth, or at least much more finely sculptured than the fifth 61.
61. Face rugose, at least on the sides below the antennæ, without any small punctures; or abdomen linear. 63.
- Face smooth, with minute scattered punctures, or closely minutely punctate; radial cell shorter than usual 62.

62. Face closely, minutely punctate; wings pale fuscous. . . *resolutus* Cam.
 Face smooth, with minute, scattered punctures; wings blackish, with irregular paler markings between base and apex . . . *lativentris* Cam.
63. Second segment of abdomen with a median area or one clearly defined by differences in the direction of the striæ 64.
 No trace of a median area on second segment . . . *rhadamanthus* sp. nov.
64. Median area smooth; fifth segment distinctly striate at base . . . *clanes* Cam.
 Median area striated; fifth segment with very fine rugose-acicular sculpture at base *bicostatus* Szép.
 Second abdominal segment twice as broad as long . . . *cf. excisus* Szép.
65. Fore and hind wings uniformly blackish except for a small pale area below the stigma and sometimes a small spot on the hind wing . . . 67.
 Fore wings with a large pale area near base, a band below stigma and spot nearer apex; hind pair with three large pale spots . . . *12. fasciatus* Cam.
66. Vermilion red, with black markings; first abdominal segment with a median keel *soleae* Cam.
 Dull yellow, with black markings; first abdominal segment without median keel *nigridorsis* Kriech.
 Black, with red markings; underside of abdomen yellowish white
 *leucogaster* Cam.
67. Ovipositor shorter than the body *appelatrix* Cam.
 Ovipositor much longer than the body
 (cf. *I. monteiroae* Cam. ♂) *capensis* Cam.

IPHIAULAX PHOSPHOR, sp. nov.

♂ Length 8 mm. Head, thorax and first abdominal segment rufous-ferruginous, also the basal area of the second segment and the legs, except hind tibiae and tarsi; antennae, and the remainder of the abdomen and hind legs, black. Wings variegated; pale yellow from base to nervulus, blackish beyond, except for a complete hyaline cross band below the basal half of the stigma, a hyaline cloud about the second transverse cubitus and a hyaline spot just above in the radial cell; basal half of stigma fulvous, remainder black; veins ferruginous in the pale areas, black elsewhere; hind wing yellowish on the basal two-fifths. Head scarcely wider than thick; frontal excavation deeper on each side above the antenna. Malar space only one-sixth the eye height, with a rather indistinct furrow; face irregularly rugose. Antennae as long as the body; scape simple, scarcely twice as long as thick; first flagellar joint distinctly longer than the second which is about twice as long as thick; ocelli in a small equilateral triangle, three times as far from the eye as from one another. Parapsidal furrows impressed anteriorly, the middle lobe raised. Abdomen lanceolate, one-third wider than the thorax and about five times as long as broad; first segment less than twice as wide at apex as at base, sides straight; median lobe broad, con-

vex, faintly shagreened; lateral grooves not distinctly cross-ridged; lateral carinae very close to the margin; second segment widened behind, somewhat shorter than broad; median area small, convex, subtriangular, with the apex drawn out into a carina that extends nearly to apex of segment; the whole bordered by a broad lateral groove that has several cross carinae anteriorly next to the median area; outside the groove is a flat, smooth longitudinal band, its outer edge sharply depressed into a large lateral impression; this impression is very narrow anteriorly, but one-third the width of the segment behind, deepest at the middle and cross ridged next to its inner edge; third segment smooth, except for several coarse longitudinal striae medially at base, and a series of irregular foveae that separate the large anterior corners; of nearly equal width, one-third broader than long; suturiform articulation smooth, but the three following coarsely cross-striated; fourth and fifth segments with a trace of a median striated area at base, elsewhere smooth, except for coarse striae in the depressions that separate the anterior corners. Legs clothed with long hairs, especially dense on the tibiae and tarsi. Cubital vein bent at base; radius issuing before the middle of stigma; radial vein extending almost to wing-tip, third section as long as the second; transverse cubiti of equal length, each not quite half as long as the second section of radius; stalk of second cubital cell short, but distinct; nervulus barely postfurcal.

Type from Mfongosi, Zululand (W. E. Jones) April, 1916.

IPHIAULAX MINYAS, sp. nov.

♀. Length 13 mm.; ovipositor slightly longer than the body. Rufoferruginous; head lighter; abdomen darker, and blackened from the middle of the third segment, both above and below; antennae black. Wings variegated; ground color yellowish, lighter apically, spotted with brownblack as follows: three coalescent spots forming a band, at the parastigma, below at the base of the cubital cell and below in the center of the discoidal; also one in the radial cell below apical part of stigma and a small weak one below in the cubital cell; apex of wing beyond cubital cell with an infuscated band; stigma and most of venation fulvous; hind wing blackened apically and below. Head a little broader than thick, the temples but little narrowed; occipital margin nearly straight; frontal excavation not distinctly divided by a median elevation; ocelli in an equilateral triangle, twice as far from the eye as from one another; face finely sculptured, shining; malar space one-third the eye-height, with a faint trace of a furrow; antennae longer than the body, very slender

apically; scape simple, swollen, twice as long as thick; first flagellar joint one-half longer than the second, slightly more than twice as long as thick; joints near middle strongly transverse, nearly quadrate toward apex. Prothorax entirely smooth; middle lobe of mesonotum elevated, very broad anteriorly; parapsidal furrows complete. Abdomen closely, coarsely longitudinally striated to the tip of the fourth segment, more irregularly so on the third and fourth segments, each of which bears a smooth area laterally at the base; suturiform articulation broad, deep striated like the nearby surface, narrowed laterally and with more widely separated striae; first segment nearly twice as wide as long, its median space very large, convex, bordered at the sides by a foveate line that is almost at the lateral edge of the segment. Second segment without median area, at each anterior angle with a transverse smooth space from the inner end of which extends a groove leading into a deep lateral basin; segment widened behind where it is one-half broader than long. Third segment with the anterior corners sub-triangular, the grooves leading to the crescentic lateral basins originating near the median line; posterior edge forming a rather broad smooth rim, fourth segment with a well impressed, coarsely striated transverse groove at base, wide medially, narrowed and becoming smooth laterally; anterior corners with the smooth area like that on the third segment; apex with a foveate groove preceeding the smooth elevated marginal rim which, like the one on the third segment is much wider at the extreme sides; fifth segment smooth except for a crossstriated groove extending halfway across the base, its apical rim nearly obsolete. Sheaths of ovipositor and the legs with very short hairs. Radial vein ending much before wing-tip, its third section slightly bisinuate and as long as the other two combined; cubitus straight at base; first transverse cubitus very oblique, parallel with the recurrent nervure, the second cubital cell much narrowed above and distinctly wider apically its stalk one-third as long as the recurrent nervure; second transverse cubitus two-thirds as long as the second section of radius; nervulus interstitial.

Type from Mfongosi, Zululand (W. E. Jones), May 1916.

IPHIAULAX PROSERPINA, sp. nov.

♀. Length 12 mm.; ovipositor 7 mm. Luteous; the abdomen beyond the first segment, the antennae entirely and the hind legs beyond the trochanters, black; tips of middle tarsi fuscous. Wings black with the base yellow to two-fifths the distance to the nervulus; basal half of stigma fulvous, below it an oblique clear streak in the first cubital cell, a clear spot just outside the upper end of the re-

current nervure and a clear line along the second transverse cubitus; base of hind wing yellow for a distance equalling the yellow of the fore wing. Head slightly wider than thick, temples rounded, occiput strongly concave; frontal basin divided by a weak median line below the ocelli; face coarsely punctate laterally, rugose-reticulate in the middle; malar space one-fourth the eye-height, with an indistinct furrow. Antennal scape broadened apically, simple at tip, twice as long as broad; first flagellar joint half longer than the second, twice as long as thick; joints near middle of flagellum strongly transverse. Ocelli in an equilateral triangle, three times as far from the eye as from one another. Mesonotum convex in front, but very indistinctly trilobed, the parapsidal furrows scarcely impressed; malar lobe behind and disc of scutellum unusually flat. First abdominal segment one-half longer than wide, the median raised area coarsely irregularly longitudinally striate and bordered by a smooth flat lateral band that extends to the edge of the segment although viewed in profile it is seen to be above the true lateral edge and separated from it by a deep, rather broad groove. Second segment very irregularly, coarsely striate-reticulate, the striae regular only at the basal middle which is raised but not in the form of a discrete area; behind this is a large shallow impression reaching nearly to the apex and divided by a median carina; anteriorly at each side of the middle with a smaller oval shallow impression and from the anterior angle to near the posterior edge with a broad impressed groove that slopes slightly toward the median line; in front between this and the oval impression is a smooth space; second segment one half wider than long. Sutureform articulation broad and deep, strongly striate as are also the two following ones. Third, fourth and fifth segments coarsely, rather regularly, longitudinally striate, their hind margins smooth, but not reflexed; their anterior corners separated as large transverse, triangular, smooth tubercles; sixth segment smooth. Legs and sheaths of ovipositor rather densely clothed with short hairs. Radial vein attaining the wing tip, its third section as long as the other two combined; cubitus bent at base; second cubital cell barely widened apically, its upper edge not quite twice as long as the second transverse cubitus; stalk of second cubital cell very short; nervulus interstitial.

Type from Barberton, Transvaal (H. Edwards). November 1911; Salisbury and Umtali, Rhodesia.

IPHIAULAX HESPER, sp. nov.

♂. Length 10 mm. Dark rufo-ferruginous, the legs lighter and

the dorsal surface of the propodeum and abdomen, especially the tip of the latter, blackened; antennae black. Wings variegated; basal part yellowish hyaline as far as the basal vein; apical part beyond the second transverse cubitus and bend of nervellus infuscated; marked with blackish between as follows: an incomplete band occupying basal corner of first cubital cell most of first discoidal and upper part of lower discoidal cell, and a round area at base of radial cell; stigma fulvous, except at tip; wing veins mostly fulvous. Head nearly one-half broader than thick, obliquely narrowed behind the eyes, with the occipital margin broadly excavated; frontal impression shallow, faintly divided by a median carina; malar space extremely short, with an obsolete fovea. Eyes nearly round; face smooth and shining, convex on each side; but medially with a deeply impressed line from the clypeus to the antennae. Scape of antenna much narrowed basally, twice as long as broad, the inner edge at apex deeply and broadly emarginate. Ocelli large, in an equilateral triangle; separated by their own diameter. Mesonotum highly convex in front; the parapsidal furrows broad, but not very deeply impressed; scutellum convex. First abdominal segment twice as long as wide at apex, striate longitudinally on the raised portion; sides very narrow, transversely striate or foveate; second to fourth segment coarsely and rather regularly longitudinally striate; fifth with more irregular and very shallow striate sculpture. Second segment slightly longer than broad, without basal median area, smooth lateral corners sub-triangular, of moderate size, bounded medially by an oblique linear impression and behind by a large, elongate oval one that reaches nearly to the apex; suturiform articulation broad, rather shallow, its striae continuous with those of the second and third segments; third segment with the anterior corners small, tuberculate; behind these with a large deep impression, narrowed inwardly and extending nearly to the median line; apical margin smooth, preceded by an impressed line; fourth segment like the third except that its basal furrow is more deeply impressed and the impression behind the anterior angle extends sharply forward to meet the basal one far before the median line, the apical margin smooth, preceded by a foveate line; fifth segment with the anterior corners separated as small tubercles, its apical edge preceded by a smooth impressed line. Abdomen scarcely wider than the thorax. Radial cell narrow, the radial vein falling far short of attaining the wing tip, its third section weakly bisinuate, as long as the other two together; cubitus straight at base; stalk of second cubital cell half as long as the recurrent nervure, the cell very slightly widened apically, its upper

side twice as long as the second transverse cubitus; nervulus slightly prefurcal, straight, none of the veins thickened; radius arising at the middle of the stigma. Legs clothed with glistening hairs, short and dense on the tibiae and tarsi.

Type from Durban, Natal (W. Haygarth), April 1913.

IPHIAULAX IRIS, sp. nov.

♀. Length 14 mm.; ovipositor 13 mm. Dull rufo-ferruginous, the first, second and third segments of abdomen irregularly blackened near the middle; antennae and sheaths of the ovipositor black; wings dull yellow from the base to the nervulus, black beyond, except for a yellowish-hyaline band below the basal half of the stigma extending entirely across the wing, and a hyaline streak along the second transverse cubitus; hind wing dark except at the extreme base; stigma fulvous, with the tip black. Body rather stout, the abdomen but little longer than the head and thorax and twice as wide as the latter. Head slightly broader than thick; temples rather full behind the eyes, rounded; the occiput only feebly concave; frontal impression shallow, divided medially; ocelli in a small triangle, nearly three times as far from the eye as from one another, surrounded by an impressed line. Face shining, with a few fine punctures; clypeus high, triangular, the face above it with a median impressed line; malar space one-fourth the eye-height, with a broad shallow furrow. Antennal scape short, expanded toward tip, but not noticeably projecting below at apex. Mesonotum with complete, deeply impressed parapsidal furrows, the median lobe strongly elevated. Scutellum highly convex. First abdominal segment but little longer than broad at apex, with postero-lateral expansions; middle portion very broad, not strongly convex, more or less irregularly, longitudinally aciculate; side pieces very narrow, transversely striate except in front. Second segment distinctly broader than long, the lateral margin deeply notched at the middle; surface finely and irregularly longitudinally striated; basal median area not indicated, except that the striae assume a triangular arrangement at this place; anterior corners separated as large, nearly smooth, subtriangular elevations, one-third the width of the segment; from their inner edge extends an oblique impression that disappears before the posterior corner. Sutureform articulation very deep, but rather narrow, closely and deeply striated; its posterior branches beginning near the median line and reaching the lateral margin at the middle of the third segment, the anterior corners of the third segment therefore very large, surface more finely striate than that of the second segment and obsoletely so near

the sides; fourth segment like the third, each of them with the posterior edge smooth, preceded by a striate, impressed line; fifth segment smooth, except that its basal transverse impression is faintly striated near the middle. Legs rather stout, the tibiae and tarsi densely clothed with short fulvous pubescence. Radial cell narrow, ending far before the wing-tip; third section of radius bisinuate, as long as the two preceding together, the first more than half as long as the second; second cubital cell slightly widened apically, much narrowed above, the apex more than half as long as the upper side; stalk of second cubital cell nearly one-half as long as the recurrent nervure; nervulus perpendicular, quite distinctly post-furcal; stigma unusually narrow.

Type from Mfongosi, Zululand (W. E. Jones), March 1914.

This species is much like *I. minos* sp. nov. both structurally and in color, although the pale areas are much less extensive on the apical part of the wings. The nervulus is, however, inserted distinctly beyond the basal vein and the bifurcation of the basal transverse impressed line of the third segment is close to the median line, not near the side as in *I. minos*.

IPHIAULAX AURORA, sp. nov.

♀. Length 14 mm.; ovipositor 8 mm. Bright rufo-ferruginous, the antennæ, hind legs beyond the knees and sheaths of ovipositor black; wings fulvous yellow, paler apically, with a blackish band around apex extending from the apical third of the radial cell to a point on the hind margin below the middle of the second cubital cell; the band is pointed at the beginning and truncate at the end, about as broad as the second cubital cell; wing also with the following black spots; one below the parastigma extending into the upper angle of the first discoidal cell, a rounded one at the bottom of the lower discoidal cell, a rounded one in the radial cell just below the apex of stigma and another below that in the middle of the second cubital cell; entire stigma and venation fulvous. Head large, slightly wider than thick, the temples large, broadly rounded; occipital line slightly concave; frontal impression very shallow, not divided. Face flat medially, with a groove above between the bases of the antennæ; shagreened, with a few irregular foveæ and reticulations. Malar space only one-fifth the eye-height, with a weak furrow. Scape of antenna stout, but little narrowed at the base, twice as long as thick, simple at tip; flagellar joints longer than usual, the first more than twice as long as thick; the second twice, and the joints near the middle scarcely transverse. Mesonotum weakly convex, not trilobed,

the parapsidal furrows very weakly impressed and extremely narrow. Scutellum weakly convex. First abdominal segment as long as wide at apex, its median space somewhat irregularly longitudinally striated, not very strongly convex, much narrowed in front; the lateral flat space narrowed behind where it bears some faintly raised striæ, its inner edge defined by a finely punctate line; second segment somewhat shorter than its width at apex, irregularly longitudinally striated, as are also the third and fourth; without trace of a basal median area, anterior corners each with a small raised triangular smooth space, behind which is a shallow oval impression; suturiform articulation broad, deep and striated medially, bifurcated into two punctate lines laterally, enclosing the large triangular, weakly elevated smooth areas at the anterior angles of the third segment; the latter three times as wide as long, the apical margin narrowly smooth, preceded by a wider striate impressed groove; fourth segment narrower than the third, similarly sculptured; fifth similar, but the sculpture slightly weaker, especially at the sides. Radial vein almost attaining the tip of wing, its third section straight, hardly as long as the second; cubitus angularly bent near the base; second cubital cell twice as long above as wide at apex, its stalk very short; nervulus interstitial.

Male. Slightly smaller but like the female, except that the spot in the lower discoidal cell is weaker and the one in the second cubital very faint. The hind wing in both sexes has the apical fourth and the posterior margin, except at base, infuscated.

Type ♀ from Barberton, Transvaal (H. Edwards), November 1911. Paratype ♂ from Barberton, the same date. The species is evidently similar to *I. tigrinus* Szép., from Kilimandjaro, but appears to be distinct.

IPHIAULAX DIANA, sp. nov.

♀. Length 9 mm., ovipositor 8 mm. Fulvo-ferruginous, the abdomen darker, rufo-ferruginous; antennæ, sheaths of ovipositor and hind legs beyond the knees, black; wings fulvous, marked with brown black as follows; a quadrate spot, including the extreme tip of basal, extreme base of first cubital and upper third of first discoidal cells; a trapezoidal spot in the lower discoidal cell separated from its margins except below; two large confluent spots, one below apex of stigma and the other below in the second cubital cell, and an apical marginal band from the apical third of radial cell to posterior margin where it almost meets the dark area in the second cubital cell; hind wing with a spot at base of cubital area and the apical fourth,

extending along hind margin as a line nearly to base, blackish; costa and entire stigma fulvous. Head one fourth wider than thick, the temples full, narrowed sharply at the hind corners; occipital line deeply excavated medially; frontal excavation moderately deep, not divided medially; face coarsely shagreened, with a few irregular wrinkles; impression between bases of antennæ not extending to face below; malar space one-fifth the eye-height, with a foveate impression. Antennal scape emarginate on apical margin, not much expanded toward tip, twice as long as thick; first flagellar joint one-third longer than the second which is twice as long as thick; joints near middle of flagellum slightly longer than thick. Mesonotum faintly lobed in front where it is raised, but the parapsidal furrows are shallow and linear; scutellum moderately convex. Abdomen elongate-oval, one-half wider than the thorax; first segment but little longer than wide at apex, its median portion not very strongly raised, with coarse, widely separated striæ; sides flat, shining, not narrowed posteriorly and attaining the lateral margin, defined inwardly by a finely punctate line. Second segment one half wider at apex than long, without distinct basal median area, although there is a slight triangular elevation, with the anterior portion smooth; its surface and that of the third and fourth rather coarsely longitudinally striatereticulate; lateral tubercles small, triangular, well removed from the corners of the segment; behind each are two impressions, a small one inwardly and a large one externally which extends back well toward the posterior margin; suturiform articulation deep, but not very wide striate, the lateral bifurcation but little narrower. Third segment nearly three times as wide as long at the sides; anterior corners large; posterior rim smooth, preceded by a weak groove; fourth segment similar to the third; fifth and following entirely smooth and shining, the fifth a distinct apical rim at the middle. Legs slender, with conspicuous glistening hairs. Radial vein attaining the wing-tip, third section scarcely longer than the second; cubitus angulate at base; upper side of second cubital cell twice as long as the apex, indistinctly widened toward apex, the stalk short; nervulus interstitial.

Type from Salisbury, Southern Rhodesia, January 20, 1915.

IPHIAULAX MINERVA, sp. nov.

♀. Length 16 mm., ovipositor 13 mm. Thorax, abdomen and most of the legs bright rufo-ferruginous; head, except mouth and palpi, antennæ, hind tibiae and tarsi, and sheaths of ovipositor, black. Wings bright

fulvous, ornamented with black as follows: an elongate spot beyond the middle of the anal cell; a complete transverse band before the stigma, occupying all but the tips of the upper and lower discoidal cells; apex of wing beyond first section of radius, except for a large yellow spot that forms a broad incomplete band in the lower middle of the radial cell, apical third of second and basal third of third cubital cells, and extends halfway across the discoidal area below; stigma fulvous, black at tip; hind wing black apically and behind, this black extended forward as a rounded lobe at the basal third and middle of the wing. Head transverse, nearly twice as wide as thick; frontal excavation deep, with a median groove extending from between the antennae to the median ocellus; temples long, obliquely narrowed; occiput deeply concave; face shining, with scattered, minute punctures; malar space one-third the eye-height. Antennae stout, tapering; scape flattened, much widened apically, punctate on upper side; first flagellar joint one-half longer than thick, second quadrate, all beyond short, transverse. Ocelli very close together, their tubercle bounded at the sides and above, except at the median line, by a grooved line. Mesonotum very convex, parapsidal furrows obsolete; scutellum sub-triangular, weakly convex. Abdomen broad, elongate oval; first segment with the median lobe strongly raised behind, almost smooth anteriorly, coarsely striate behind and with a median groove; sides narrow, wider behind, limited exteriorly by a carinate edge. Second segment closely longitudinally striate, longitudinally convex anteriorly at the middle, but without trace of basal median area, lateral tubercles small, each with an elongate impression behind it and a less pronounced oblique one extending inwards to the anterior margin; suturiform articulation broad, closely striate, narrowed laterally. Third segment a little more finely striate than the second; lateral tubercles large, transverse, smooth, the groove behind them broad and not extending forward inwardly; posterior rim convex, shining; fourth segment with a striate basal impression, extending also behind the lateral smooth areas, finely striate-aciculate medially, but smooth at the sides; posterior rim preceded by a striate groove; fifth segment smooth except for a few striae and punctures medially at base; anterior and posterior edges like those of the fourth, including the lateral tubercles. Sheaths of ovipositor stout, with very short hairs. Legs stout, fore and middle tibiae and tarsi with short fulvous pubescence, that on hind tibiae and tarsi black. Radial vein ending considerably before the wing tip; third section straight, no longer than the second, the radial cell unusually narrow, second cubital cell much widened apically, its stalk half as long as

the recurrent nervure; cubitus straight at base, nervulus oblique above, slightly, but quite distinctly post-furcal.

Type from Salisbury, Southern Rhodesia, August 8, 1917.

This species is similar to *Iphiaulax (Goniobracon) transitus* Szépliget, but differs in the black head and presence of two yellow wing-bands. The head is much more strongly transverse than is usual.

IPHIAULAX BELLONA, sp. nov.

♀. Length 10–11 mm.; ovipositor half as long as the abdomen. Black; the abdomen dark rufous, the extreme tip black and the base more or less blackened in spots; a spot on each cheek below, orbital streak on head above and most of the propleuræ luteous; second trochanter of hind leg red below; wings black, spot at base of stigma yellow; spot outside the stalk to the second cubital cell and a streak along second transverse cubital vein, hyaline. Head fully as thick as wide, the temples bulging and broadly rounded behind; occipital line straight; frontal excavation small, deep, with a slight groove medially; face convex, shagreened and finely wrinkled; malar space one-third as long as the eye, with a groove. Antennæ very long and slender; scape short, expanded apically, deeply emarginate on the sides so that the lower apical edge projects as a distinct process; first flagellar joint twice as long as thick; second slightly shorter, those near the middle of flagellum strongly transverse; ocelli in a low triangle, the paired ones a little closer to one another than to the eye. Thorax long and slender the mesonotum highly convex anteriorly; parapsidal furrows weakly indicated as broad, shallow impressions. Abdomen smooth and shining throughout, without striæ or punctures; first segment one half longer than broad at apex, the median portion much narrowed anteriorly, strongly convex and with a smooth median ridge; sides narrow, forming two broad grooves which extend backwards on to the second segment where they curve inwards and meet before the apex, thus limiting a large subtriangular median area at the base of the second segment; second segment much widened behind, three times as broad as long; on each side with a crescentic groove, extending inwards from the anterior angle and curving toward the posterior margin to turn again outward and forward; suturiform articulation narrow, smooth; anterior corners of third and fourth segments large, separated by short oblique grooves; these segments with strong transverse basal grooves, but with no distinct posterior rims. Legs short, the hind pair stout, with the femora noticeably flattened. Radial vein ending a short distance before the wing tip, its third section as long as the two

preceding together; cubitus straight at base, stalk of second cubital cell one third as long as the recurrent nervure; first transverse cubitus very oblique, the second more than half as long as the second section of the radius; nervulus interstitial.

Type from Pretoria (H. K. Munro), April 22, 1917; paratype from Durban, Natal (Marley), 1915.

In the cubical head and short legs, this species looks much like a Doryctine. It has none of the venational characters of that group, however.

IPHIAULAX JUNO, sp. nov.

♀. Length 21 mm., ovipositor 36 mm. Black, except the abdomen which is entirely bright rufo-ferruginous, and a faint light streak on the posterior orbits; wings black, with the basal two-thirds of the stigma fulvous; below the basal edge of the stigma is a paler area extending across the first cubital cell and below the stalk of the second cubital cell is a small hyaline spot; hind wings without pale markings. Head as thick as broad, the temples long, but narrowed from the eye to the sharply rounded hind angles; occipital line strongly concave; frontal impression deep, with a broad median groove below; between each antenna and the eye is a broad orbital channel that extends nearly to the ocelli; face subopaque and shagreened, except for a median shining area just above the clypeus; antennal tubercles strongly developed; malar space one-third the eye-height, with a large foveate impression. Antennal scape weakly produced below at apex; first flagellar joint one-half longer than thick and scarcely longer than the second; joints toward the middle of the flagellum only half as long as thick. Thorax long and slender, the mesonotum not strongly elevated anteriorly; parapsidal furrows distinct and rather deep; scutellum nearly flat at base. Abdomen lanceolate, not much broader than the thorax, considerably longer than the rest of the body; first segment not distinctly widened behind, almost twice as long as broad; its median portion strongly elevated deeply striate near apex, smooth basally except for some fine striae near the median line; sides very narrow, deeply grooved and limited externally by a carina. Second segment broadened behind where it is almost as wide as long; striate down the middle except at extreme base; sides not sculptured, median basal area not distinctly defined although the surface is raised medially on the anterior half; anterior corners very small, triangular, bounded inwardly and behind by a small deep rounded impresssion; the sides of the segment with an elongate deep impression that is very much broadened behind.

Suturiform articulation deeply striated, narrowed laterally; anterior corners of third segment very large, triangular, half as long as the segment laterally and nearly meeting one another in front, the oblique groove behind them striated as is also a median stripe and a band preceding the smooth posterior margin, fourth segment like the third except that the disc is shallowly reticulate with a median carina and the basal striae do not extend in front of the lateral anterior areas; fifth segment with lateral areas, smooth, except for a broad, closely striated basal band and a narrower, apical one which bears widely separated cross-striae. Legs rather long and stout. Radial cell narrow, especially toward apex, ending much before the wing tip; third section of radius not sinuate, as long as the other two combined; cubitus straight at base; second cubital cell noticeably widened apically, its apex two-thirds as long as its upper side, its stalk nearly half as long as the recurrent nervure; nervulus slightly, but distinctly post-furcal.

Type from Warm Baths, Transvaal April 21, 1918.

Although very different in structure, this fine large species resembles *I. havilandi*. It may be distinguished from *I. hirticeps* by the longer ovipositor and much larger size.

IPHIAULAX LUCINA, sp. nov.

♀. Length 12 mm.; ovipositor 4 mm. Rufous; antennae, occiput, middle of front and of vertex black; sheaths of ovipositor piceous; wings dark, but not black; the costa, except parastigma, and the stigma, except extreme tip, yellow: first cubital cell with a pale spot above, a hyaline spot below the base of the second cubital cell and a yellowish spot below the bend of the nervellus. Head considerably wider than thick: face strongly retreating below; temples obliquely and very sharply narrowed to the nearly straight occipital line where the head is very much narrower than just behind the eyes. Frontal impression shallow, extending almost to the eyes, with a median grooved line; face shining, with a few microscopic punctures; malar space nearly half as long as the eye, with a distinct furrow. Antennae very long and slender; scape short, simple at tip; first flagellar joint one-third longer than wide: second quadrate; those near middle of flagellum twice as broad as long. Thorax slender: mesonotum strongly convex above near center; parapsidal furrows obsolete; scutellum strongly convex. First abdominal segment widened behind where it is three-fourths as broad as long; its central area subtriangular one third shorter than the segment, longitudinally striate-punctate; side pieces smooth, flat, narrowed behind, their lateral margins cari-

nate behind. Second segment slightly wider than long, but little wider behind, its surface longitudinally rugose, distinctly striate only medially in front and behind the oblique basal grooves; median area absent; anterior lateral areas large, transverse, shining, the oblique grooves behind them deep, each meeting a smooth lateral deep impression that extends to the posterior third of the segment. Suturaiform articulation deep, striate, much widened laterally before the bifurcation that encloses the small tubercular corners of the third segment; the latter sculptured like the second, somewhat narrower, half as long as wide; the posterior edge depressed, with a crenate apical line, fourth segment like the third, but smooth laterally and with the apical crenate line more distinct, fourth segment aciculate at base, sparsely irregularly punctate at center and smooth laterally, with a strong crenate impressed line at apex. Legs long and slender. Radial vein ending well before the wing-tip, its third section as long as the other two; cubitus faintly bent at base, second cubital cell narrow, parallel, without distinct stalk at base, much narrowed above; nervulus interstitial.

Type from Que Que, Southern Rhodesia (Bultitude).

IPHIAULAX IPHIGENIA, sp. nov.

♀. Length 9 mm.; ovipositor 3 mm. Bright rufous, the abdomen with dark blotches above, more pronounced apically; antennae, sheaths of ovipositor and large spot on head above, black. Wings deeply infuscated, basal cell paler; central part of first cubital cell and base of lower discoidal area subhyaline and a faint hyaline streak along the second transverse cubitas, costa and entire stigma bright red. Head distinctly wider than thick, the temples obliquely rounded behind from the eyes; occipital line excavated rather deeply at the middle; frontal impression broad, shallow; ocellar triangle bounded by a clearly impressed line, the posterior ocelli half as far from one another as from the eye margin; face smooth and shining, scarcely convex; eyes very large, the malar space one-sixth the eye-height, with a broad shallow impression. Scape of antenna expanded toward tip, the lower apical margin projecting as a short, blunt tooth; first flagellar joint not quite twice as long as thick; second one-half longer than thick; joints toward middle of flagellum not very strongly transverse. Mesonotum strongly elevated medially in front; parapsidal furrows obsolete; scutellum convex behind. First abdominal segment expanded, no longer than wide; median elevation one-third the width of the segment, ovate, side-pieces flat, their lateral edges nearly parallel; outside these is a triangular smooth expansion, the

anterior oblique edge of which is twice as long as the posterior one. Second and third segments longitudinally rugose-striate, the abdomen short and broad. Second segment more than twice as broad as long, without distinct basal area; lateral areas triangular, large, convex; behind each is a Y-shaped impression reaching to the apex of the segment; suturiform articulation very broad, coarsely striated, widest laterally, more than half the length of the segment where it meets the large rounded lateral elevations; posterior edge of third segment with a posterior smooth rim, preceded by a crenate line, the segment over three times as broad as long; fourth segment smooth, except for a few irregular striae medially at base; with a deep, narrow striate groove at base; fifth segment smooth; both the fourth and fifth with the lateral tubercles and posterior edge like those of the third. Legs stout, densely glistening pilose, radial vein ending well before the wing tip, the third section nearly as long as the first and second together; radial cell with a very short stalk, not widened apically, the apex less than half as long as the upper margin; cubitus distinctly bent near the base; nervulus interstitial.

Type from Junction of Crocodile and Marico rivers, Transvaal (R. W. Tucker), February 1918.

IPHIAULAX VESTA, sp. nov.

♀. Length 9 mm.; ovipositor 3 mm. Bright rufous, the abdomen infuscated slightly beyond the middle, especially on the sixth and following segments; head with a large black spot above; sheaths of ovipositor, antennæ, and apical joint of all tarsi, black. Wings black, with the costa and stigma bright red; basal cell lighter in the central part as is also a spot in the first cubital cell below the stigma; a small spot just below the first transverse cubitus hyaline, as is also a very narrow streak along the second transverse cubitus; hind wing with a pale spot in the base of the radial cell. Head slightly wider than thick, the temples sloping, the posterior corner rather sharply rounded; occipital line short, deeply concave; frontal excavation broad, nearly reaching the eye; ocellar tubercle surrounded by a grooved line. Face smooth in the center; coarsely rugose-reticulate on the sides and below, but with the entire surface quite shining; eyes quite large, but set rather high, so that the malar space equals onethird the eye-height; it is broadly concave, but without furrow. Antennal scape expanded apically, simple at tip; first flagellar joint scarcely longer than the second, one-third longer than wide; joints near middle of flagellum nearly as long as broad; mesonotum highly convex anteriorly, without parapsidal furrows;

scutellum convex. Abdomen short and broad, fully twice as wide as the thorax and scarcely as long as the head and thorax together; first segment, excluding the triangular posterior projections, one half longer than broad at apex; median elevated portion elongate-oval, coarsely longitudinally striated or wrinkled; side pieces flat, narrowed behind, inner edge with an impressed line at base which widens out into an impression apically, outer edge weakly carinate; posterior projections forming a nearly equilateral triangle. Second segment twice as broad as long, elevated medially in front, but without basal area; lateral areas large, transverse, divided near the corner by an anterior extension of the striate groove that limits them behind; lateral impressions large and broad, deepest anteriorly; surface coarsely, somewhat irregularly longitudinally striate; suturiform articulation deep, striate, rather narrow medially, widened laterally to the small, weakly elevated tubercles of the third segment; weakly striate medially, nearly smooth laterally; posterior margin with a subapical impressed, weakly crenulate line; fourth segment weakly striate on basal half, the basal groove deeply striate, subapical line deep, nearly smooth; fifth segment like the fourth, but not distinctly striate and with the posterior rim more strongly depressed; apical angles of fourth and fifth not at all produced. Legs rather slender. Radial vein not attaining the wing-tip, its third section not sinuous, slightly longer than the other two combined; cubitus slightly bowed at the base; second cubital cell not widened apically, the apex half as long as the upper side, stalk short; nervulus interstitial.

Type from Maboki, Lydenburg, Transvaal (F. J. Kroeger), 1917.

IPHIAULAX PANDORA, sp. nov.

♀. Length 13-14 mm.; ovipositor 5 mm. Brilliant rufous or vermilion, marked with black as follows: broad stripe on head above, anterior half of median lobe of mesonotum, complete stripe on each lateral lobe, antennæ, sheaths of ovipositor and tarsal claws. Wings black, the costa and stigma and base of costa in hind wing, red; lighter cloud in first cubital cell, hyaline spot below it and hyaline streak along second transverse cubitus very clearly marked. Head distinctly wider than thick; temples obliquely narrowed; occipital line arcuately excavated; frontal impression large and deep, distinctly divided medially; impressed line about ocelli incomplete above; face opaque, shagreened, with punctures of many sizes intermixed, the latter larger on the sides below; malar space scarcely one-fourth the eye-height, not distinctly impressed or furrowed. Antennæ very long, stout at base, but finely tapered apically; scape strongly expanded

apically, the outer apical margin deeply emarginate and the lower apical edge strongly produced; first flagellar joint not much longer than thick; second quadrate; joints near middle of flagellum more than twice as thick as long, the smaller ones toward apex becoming again quadrate. Mesonotum not very strongly convex, the parapsidal furrows distinct, anteriorly, though not deep; scutellum flat basally. First abdominal segment, exclusive of the posterior projections, twice as long as broad; middle portion elongate oval, highly convex, longitudinally striate-reticulate; side pieces smooth, their outer edges carinate; anterior edge of the triangular lateral projections longer than the posterior one. Second to fifth segments rugose, the basal impressions deeply and coarsely striate and the sides of the third to fifth smooth; second segment twice as broad as long, without distinct basal median area; lateral areas strongly transverse, nearly smooth; basal oblique impression not extending behind the middle laterally where it sends forward a deep groove that separates the anterior corner. Suturiform articulation much broader laterally, its posterior edge strongly sinuous, separated corners of third segment large, smooth; its posterior edge depressed, margined by a crenulate line. Fourth and fifth segments highly convex behind, their posterior margins very much depressed and with a coarsely crenulate marginal line; posterior angle of fifth segment strongly produced into a blunt tooth. Legs stout, densely pubescent. Radial vein ending not far before the wing-tip, its last section straight, longer than the other two together; cubital vein straight at the base; second cubital cell slightly wider apically, its apex half as long as its upper edge, stalk short; nervulus interstitial.

Type from Salisbury, S. Rhodesia, January 7, 1917; paratype from Mfongosi, Zululand (W. E. Jones), March 1917, and a third female from Otjituo, S. W. Africa, (R. W. Tucker), Jan. 1920. A label attached to the type indicates that the species is parasitic upon "*Gonometra* sp." Two males from Otjituo, S. W. Africa (R. W. Tucker), Jan. 1920 appear to be this species, but have the fifth segment uniformly rugose, as does a third male from Tsumeb, S. W. Africa (R. W. Tucker), Dec. 1919.

IPHIAULAX THISBE, sp. nov.

♀. Length 9 mm., ovipositor 3 mm. Bright fulvo-ferruginous; the antennae, ocellar tubercle and tips of the apical tarsal joints black; abdomen irregularly blotched with blackish beyond the second segment. Wings dark fuscous, the costa and stigma red; basal cell and spot below stigma in first cubital cell lighter; spot below first

transverse cubitus and streak along second transverse cubitus hyaline; base of costa in hind wing red. Head fully as long as broad, strongly produced at the base of the antennæ; temples obliquely narrowed, the occipital line excavated near the middle; frontal impression deep centrally, divided on the median line; impressed line about ocelli incomplete above; face shining, smooth centrally; with sparse, coarse punctures on the sides below. Eyes rather small; malar space one-third the eye-height, with an obsolete impression. Antennal scape small, simple at apex; first flagellar joint one-half longer than wide, considerably longer than the second; joints toward middle of flagellum about as long as thick. Parapsidal furrows not indicated; scutellum strongly convex. Abdomen short and broad, twice as wide as the thorax. First segment, exclusive of the posterior projections scarcely longer than wide; central portion reaching nearly to the base, coarsely, irregularly longitudinally wrinkled; side pieces narrowed behind, not distinctly carinate laterally; posterior projections with the anterior edge longer than the posterior one. Second segment slightly more than twice as wide as long; without distinct median basal area; lateral areas transverse, smooth; remainder of segment striated except the posterior corners; lateral discal impressions large and deep. Sutureform articulation broad and deep, striated, broader laterally; anterior corners of third segment small, the groove before and behind them narrow; surface rugose, with slight indication of striae medially, posterior margin without a distinct impressed line before the edge. Fourth and fifth segments weakly rugose near the median line, almost smooth laterally, the anterior corners separated; basal groove deep, striated; apical impressed line distinct, crenulate; the extreme edge forming a smooth rim. Legs stout; tibiae with long fulvous hair. Radial vein ending a short distance before the wing-tip, the third section barely as long as the first and second together: cubitus slightly angled near the base; second cubital cell slightly widened apically, its apex not quite half as long as the upper side, stalk short; nervulus interstitial.

Type from Seymour, Cape Province, (L. Péringuey) 1891.

IPHIAULAX RHADAMANTHUS, sp. nov.

♂. Length 18 mm. Thorax rufous, lighter below and behind; abdomen and legs fulvous, the hind tarsi black; head black, the orbits below rufous and the mouth region fulvous; wings black, with pale markings as follows; basal third of stigma fulvous; first cubital cell, except base and apex, fulvohyaline, discoidal area, beyond the closed discoidal cells with a similar spot of the same size which is

contiguous with the stigmal spot and attains the posterior margin of the wing; apex of second and base of third cubital cell with a quadrate fulvous spot that includes the entire second transverse cubitus; hind wing with a large pale spot in and below the base of the radial cell and several smaller spots near the base of the cubitus. Head strongly transverse, nearly one half wider than thick; vertex much narrowed behind the eyes to the occiput which is very strongly concave; frontal excavation rather shallow, with a median impressed line; impressed line surrounding the ocelli incomplete above, the ocelli large, and the posterior pair not separated by more than their own diameter although nearly twice so far from the eye. Face very finely and sparsely punctate, shining; malar space extremely short, without furrow or impression. Antennal scape excavated on the side at apex, but scarcely toothed below, antennal projections very strongly elevated, making the face very oblique in profile. Mesonotum weakly elevated anteriorly, flat behind, the parapsidal furrows obsolete; scutellum convex. Middle lobe of first abdominal segments and segments two to five entirely, finely, regularly, longitudinally striated. First segment, exclusive of the very narrow posterior lateral projections, twice as long as broad at apex; median lobe reaching near to the base, highly convex medially; lateral portion flat, shining, narrow, of equal width, carinate at the margin. Second segment without trace of median basal area or elevation, anterior corners rather small, triangular, strongly elevated, bordered by a broad, deep, oblique impression that extends almost to the posterior margin of the segment; the striations of the segment curving toward the anterior corner as they cross this impression. Sutureform articulation broad and deep, heavily striated, its lateral branches that define the corner of the third segment unusually deep; these corners small, rounded, strongly elevated; second segment nearly twice as broad as long, narrower in front. Third segment three times as broad as long, its posterior edge smooth, but not preceded by a crenate line; fourth and fifth segments like the third, but more distinctly impressed along the hind margin before the smooth apical band; their anterior corners as large as those of the third. Abdomen lanceolate, over twice as broad as the thorax and one-half longer. Radial cell long and narrow, but not attaining the wing tip which is more produced than usual; third section of radius as long as the second; cubitus not distinctly bent at base; second cubital cell long and parallel, its apex two-fifths as long as its upper side, stalk very short; nervulus interstitial.

Type from Eshowe, Zulu land, December 1916 (H. W. B. Marley).

IPHIAULAX AETHIOPICUS, Cameron.

Merinotus striatus, Szépligeti,
One female from East London, Cape (Lightfoot).

IPHIAULAX LUGENS, Brullé.

One female from Mfongosi, Zululand (W. E. Jones), April 1916.

IPHIAULAX XANTHOPTERUS, Cameron.

Iphiaulax trimeni, Cameron.
One specimen from Kar Kloof, Natal (Morley), December 1914.

IPHIAULAX MARTINII, Gribodo.

Iphiaulax robustus, Cameron.
One specimen from Durban, Natal (Morley), April 1915.

IPHIAULAX BICOLOR, Brullé.

Iphiaulax strenuus, Cameron.

Cameron distinguishes his *I. strenuus* by the presence of a distinct area on the second segment, but this is indicated by Brullé for *bicolor*, and I cannot see that the two species are separable. Two specimens from Mfongosi, Zululand, January and May (W. E. Jones) belong here, as well as one from Pretoria (H. K. Munro), April 19, 1920.

IPHIAULAX XANTHOSTOMUS, Cameron.

A specimen from Salisbury, Southern Rhodesia (Melle), 1916.

IPHIAULAX RUBIGINATOR, Thunberg.

Iphiaulax levissimus, Cameron.

Two examples, male and female from Matroesberg, Ceres Division, Cape, 3500 ft. (R. M. Lightfoot), November 1917.

IPHIAULAX DURBANENSIS, Cameron.

Iphiaulax pretoriaënsis, Cameron.

A female from Mfongosi, Zululand (W. E. Jones), November 1917.

IPHIAULAX NATALIENSIS, Szépligeti.

Iphiaulax basimacula, Cameron.

Specimens of both sexes from Salisbury, Southern Rhodesia (Dodds) and Mfongosi, Zululand (W. E. Jones), April 1917; two males from Nuragas, S. W. Africa, (R. W. Tucker), Jan. 1920, and another from Otjituo, S. W. Africa, (R. W. Tucker), Jan. 1920.

IPHIAULAX HAVILANDI, Cameron.

Numerous specimens from Mfongosi, Zululand (W. E. Jones) belong to this species. It is evidently similar to the variable *I. (Ipobracon) tesmanni* of Szépligeti, but with the basal median area of the second segment not smooth. *I. rosa* Cameron cannot be more than a variety.

The species varies much in size and color.

IPHIAULAX LONGICOXIS, Cameron.

A female from Windhuk, S. W. Africa (R. W. Tucker), Dec. 1919 agrees perfectly with Cameron's description.

IPHIAULAX PLURIMACULATA, Brullé.

Two specimens (♂, ♀) without definite locality.

IPHIAULAX TEGULARIS, Szépligeti.

There are several females, from Port Elisabeth (Drege), Grahams-town and Dunbrody (O'Neil). Cape.

IPHIAULAX SPILONOTUS, Cameron.

A female from Mfongosi, Zululand (W. E. Jones), May, 1916, two others from Sikhoele, Basutoland, May 1919.

IPHIAULAX SIGNATUS, Brullé.

A male from Port Elisabeth, Cape Province (Drege), 1899.

IPHIAULAX VARITINCTUS, Cameron.

One female from Ceres, Cape Province (R. M. Lightfoot), 4913.

IPHIAULAX RUBER, Bingham.

This large species is evidently distinct. The stigma is paler than in most of the related forms which are much smaller, and with the ovipositor shorter. I have not seen any specimens that could possibly belong to this species.

IPHIAULAX DECORUS, Cameron.

Four females from Mfongosi, Zululand (W. E. Jones), February to May.

IPHIAULAX WHITEI, Cameron.

One example from Mfongosi, Zululand (W. E. Jones), March 1916.

IPHIAULAX DODSI, Cameron.

A male and a female from Inhambane, Mozambique (K. H. Barnard), December 1912, and East London, Cape Province (R. M. Lightfoot), July 1914.

IPHIAULAX LATIVENTRIS. Cameron.

In general structure, this species is very similar to several of those included in the group with red stigma. The fourth and fifth segments lack the smooth rim along the posterior margin, however, a character present in the otherwise closely similar species. There are two females from Mfongosi, Zululand (W. E. Jones), March 1914 and February 1917, and one from Barberton, Transvaal (H. K. Munro).

IPHIAULAX BICOSTATUS, Szépligeti.

Two males, from Mfongosi, Zululand (W. E. Jones), May 1917, and Maboki, Lydenburg, Transvaal (Kroeger), 1917.

IPHIAULAX 12-FASCIATUS, Cameron.

A female from Dunbrody, Cape Province (O'Neil).

IPHIAULAX NIGRIDORSIS, Kriechbaumer.

A female from Stella Bush Durban, Natal (Marley), April 1915.

IPHIAULAX CAPENSIS, Cameron.

A female from Salisbury, Southern Rhodesia, September 1913.

IPHIAULAX MACULIFRONS, Ritsema.

This species described from the West Coast, near the mouth of the Congo, I have been unable to recognize in the material at hand. It is rather crudely illustrated in color, and falls in the group of species with red body and stigma. Whether either is distinct from the forms here listed, is impossible to say, without an examination of the types.

IPHIAULAX KREBSI, Cameron.

I have not seen this species, and have been unable to include it in the key. It was described from a male and is apparently very close to *I. havilandi* Cameron.

BRACON INCISUS, Brullé.

This is evidently similar to *I. spilonotus* Cameron and *I. pandora* n. sp., but it differs from both in the sculpture of the abdomen. I cannot be convinced that there is as much variation in sculpture in the species of this group as Cameron has been led to believe (Ann. South African Mus., vol. 5, p. 48 (1906), although there is unquestionably so much variation in the color and maculation of the head and thorax, that these characters cannot be relied upon to distinguish species. I suspect that it is the species I have designated as *I. incisus*. Br. in section 56 of the key to species. but may be incorrect in this interpretation.

BRACON COCCINEUS, Brullé.

This is evidently an *Iphiaulax*, but I have not been able to recognize it, although Brullé refers to it as abundant and Cameron speaks of it as occurring in South Africa (Ann. South African Mus., vol. 5, pp. 49 and 52 (1905)). Brullé's remarks may have been based upon specimens of more than one species, but at any rate his description of the sculpture of the abdomen cannot refer to any South African species that I have seen.

IPHIAULAX PECTORALIS, Szépligeti.

I have not seen this species, and the description is too incomplete to enable me to insert it in the key.

IPHIAULAX (*Campyloneurus*) SIMILIS, Szépligeti.

From the very short diagnosis, I cannot place the species, further than to know that it does not appear to be in the material before me.

PLAXOPSIS, Szépl.

PLAXOPSIS NITIDULA, sp. nov.

♀. Length 10 mm., ovipositor as long as the body. Entirely rufous, except the antennæ and ocellar triangle. Head above and apices of tarsi more or less blackened. Head transverse, one-half broader than thick, the temples broadly rounded; front impressed above the base of the antennæ, each of which is placed upon a distinct tubercle; face below antennæ with an oblique projection which bears two closely approximated grooves which receive the antennal scapes when they are bent downward; in lateral view the upper surface of this projection is parallel with the longitudinal axis

of the eye; face below and at the sides of the elevation rugose reticulate; malar space half as long as the width of the eye, with a distinct furrow; head above and behind smooth and polished. Antennae slightly longer than the body, gradually tapering to apex; scape evenly widened from base to apex, nearly three times as long as thick at tip; third joint one-half longer than thick; fourth quadrate, following very gradually shorter. Mesonotum scarcely trilobed, the furrows shallow in front and not impressed behind; scutellum subtriangular, smooth, quite strongly convex. Propodeum smooth, polished, without furrow, convex. All pleurae highly polished, propleura with a shallow oblique impression that extends over the pronotum as a deep impressed line; mesopleura with a furrow next to the tegula and another extending from the root of the hind wing toward the coxa, which together marks off a raised space near the tegula; metapleura separated from the propodeum by a very deep groove that bears a prominent fovea in front of the spiracle which is broadly ovate. Entire abdomen smooth and polished, as long as the head and thorax; first segment as long as broad at apex, its middle portion not very convex, lateral concave area of equal width, limited externally by a carina, lateral triangles strongly concave. Second segment with the basal area as broad as long, over half as long as the segment, produced apically as a slender point and margined laterally by short oblique, foveate striae; near the base with a transverse impression on each side that curves back laterally to extend nearly to the posterior corner; hind margin curved forward at the sides, but scarcely emarginate medially; suturiform articulation very broad, coarsely striated except at sides; anterior corners of third segment large and broad, separated by a striate groove; fourth segment with a crenulate line at base, its lateral angles not separated; as long and distinctly wider than the second segment which is more than twice as wide as long; fourth and following segments gradually shorter and rapidly narrower, so that the apex of the abdomen is acute. Legs rather stout and strongly hairy; anterior tarsi one-half longer than their tibiae; tarsal claws simple. Wings black; median and submedian cells each yellowish brown along the anterior border; base of radial cell, nearly all of first cubital cell, spot at base of parallel vein and cloud along second transverse cubitus, yellowish; also a triangular hyaline spot just outside the lower apical corner of the first cubital cell; hind wing with a yellowish spot anteriorly at apical third; costa and edge of stigma rufous; lower part of stigma yellow. First discoidal cell with a short petiole above, cubitus subangulate at base; recurrent nervure entering the

first cubital cell very near its tip; second cubital cell slightly widened apically, the second transverse cubitus half as long as the second section of the radius; third section of the latter scarcely as long as the second; radial cell nearly attaining the wing tip.

Type from Stella Bush, Durban, Natal (Marley), January 1915.

This might easily be mistaken for a member of the polymorphic genus *Iphiaulax* (*sens. lat.*) were it not for the prominent subantennal tubercle. The form of this tubercle, the longer scape and shorter, not carinate, first abdominal segment are quite different from *Plaxopsis sjostedti* Szép. from the Cameroons, and at first I regarded *P. nitudula* as a *Lasiophorus*. From *P. nitens* Szép. the present species differs in having the corners of the third abdominal segment distinctly separated. Both genera are separable from *Chaoilta* by the absence of a spine high up on the face next to the antennae.

CHAOILTA, Cam.

CHAOILTA AMPLIFICATA, sp. nov.

♀. Length 20 mm., ovipositor 10 mm. Head, thorax, abdominal petiole, spot at base of second segment and legs, except hind tibiae and tarsi, fulvous yellow; antennae, abdomen beyond petiole and hind legs beyond the femora black; wings bright fulvous on basal third; black beyond, except for a triangular fulvous spot which includes the first cubital cell and most of the stigma, and three hyaline spots, one just below the lower apical angle of the first cubital cell, another below the base of the parallel vein and another surrounding the second transverse cubitus; hind wing fulvous on basal half, less strongly so behind. Head scarcely broader than thick, behind the eyes long and broad, then rather sharply narrowed; ocellar triangle small, the ocelli separated by their own diameter; vertex excavated above the antennae, the basin with a median carina and indistinctly margined laterally by an obtuse rim; antennal tubercles well developed; intra-antennal spine as long as the diameter of the flagellum, followed below by a pair of toothlike processes and lower down by an oblique lamella that is concave above; face coarsely transversely striated above, nearly smooth at the sides below; malar furrow one-third as long as the eye; head above and behind smooth; head more strongly hairy than usual, especially on the face. Antennae about as long as the body; scape stout, barely twice as long as thick, obtusely toothed at apex; first joint of flagellum nearly twice as long as the second which is but little longer than thick; following joints rapidly becoming transverse, with the sutures between

them oblique. Mesonotum with weak furrows anteriorly and none behind; middle lobe very weakly convex in front, flat behind; scutellum with a delicate foveate line at base. Propodeum smooth, convex, not furrowed; spiracles oval. Petiole of abdomen slightly more than twice as long as broad at tip, which is twice as wide as the base; median lobe gently raised, ovate-lanceolate, minutely roughened, with a median raised line on apical half and some irregular longitudinal wrinkles at tip; sides of segment narrow, flat, the carina placed at the extreme lateral edge. Second segment one-half wider at base than at apex, two-thirds as long as wide at tip; basal median area rounded, convex, opaque, with some short longitudinal striae at apex and with the tip prolonged to the tip of the segment as a strong median carina; median portion of segment sculptured by broken, coarse longitudinal lines, the sides smooth, concave, the two separated by an oblique line running from the anterior angle somewhat toward the center of the posterior margin; also a small concave area basally at each side of the median area; hind margin of second segment curved forward laterally and emarginate at the extreme center; third and fourth segments of equal length, each considerably shorter than the second and with a median carina; basal corners of third large, triangular smooth, of fourth smaller and more transverse; third coarsely longitudinally striated except at tip; fourth similarly sculptured on basal half; suture at base coarsely striated; sixth and seventh much narrowed, smooth, the entire abdomen lanceolate, but little wider than the thorax and as long as the head and thorax together; sheaths of ovipositor thickly hairy. Pleurae smooth; propleura with an oblique shallow furrow that extends on to the pronotum as a deep groove; mesopleura with two oblique furrows above, metapleura with a fovea anterior to the spiracle. Legs rather strongly hairy; hind tibia one-half longer than the femur; hind coxae compressed. Cubitus rather strongly bent at base, the first discoidal cell with a long petiole above; recurrent nervure entering near apex of first cubital cell; radial cell very nearly attaining the wing tip; second section as long as the third and a little more than twice as long as the second transverse cubitus; second cubital cell faintly widened apically; nervulus interstitial.

Type from Mfongosi, Zululand (W. E. Jones), May 1917.

This is the first species to be described from the African region. Structurally it is quite similar to the type, *C. lamellata* Cam. from India, although differing in the form of the facial tubercles and in the extension of the median abdominal carina on to the third and fourth segments as well as by the longer first abdominal segment.

PLATYBRACON, Szépligeti.

Doryctocephalus. Cameron Arch. Math. Naturvidens. vol. 30,
No. 10, p. 20 (1909).

Cameron has described three species of *Iphiaulax* (*platynotus*, *calviniae* and *erythrostromus*) that belong here. One of these, *erythrostromus*, is represented by several specimens in the collection and is undoubtedly congeneric with several species of *Platybracon* in my collection. The facial ridge is less pronounced than in some species, but this character varies within considerable limits in forms otherwise extremely similar. *P. platynotus* Cam. described in 1905 from a male is surely the same as *P. erythrostromus* characterized a year later from the opposite sex and the species must be known under the earlier name.

Doryctocephalus Cameron, 1909 is evidently a synonym, but the type species, *D. platynotus* appears to be distinct from his *Iphiaulax platynotus*, 1904. The 1909 species may, therefore, receive the name of *P. planinotus* nom. nov.

SCHIZTOBRACON, Cameron.

Ann. South African Mus., vol. 5, p. 70 (1906).

Roman, Ent. Tidskr., vol. 31, p. 138 (1910) (*Tricoelopyge*).

This genus is quite distinct by the form of the fifth segment (not sixth as stated by Cameron). It resembles *Rhytimorpha* at least in the modification of this segment, but the margin is excised, not toothed; the radial cell is longer than in *Rhytimorpha*, but does not nearly attain the wing tip and is hence shorter than in *Odontogaster*; the second cubital cell is slightly widened apically. *Tricoelopyge* Roman is congeneric, but probably represents a second species.

SCHIZTOBRACON ORNATIPENNIS, Cameron.

Ann. South African Mus., vol. 5, p. 70 (1906).

Latilobatus. Cameron Arch. Math. Naturvidens., vol. 30,
No. 10, p. 24 (1909).

A specimen is in the collection from Mfongosi, Zululand (W. E. Jones), February 1917.

The submedian cell is very slightly longer than the median, but the genus undoubtedly falls in the *Braconinae*. The specimen before me agrees exactly with the original description except that the mesonotum is entirely black and the propleurae are black below. It also has the middle tibiae and tarsi black as in *S. latilobatus*, which is unquestionably only a slight color variety.

ODONTOGASTER, Szépligeti.

Caenoprymnus. Cameron Arch. Math. Naturvidens, vol. 30, No. 10
p. 22 (1909).

Three species are included in the present collection, two of them previously described, one by Cameron as the type of *Caenoprymnus* which is undoubtedly a synonym. They may be separated as follows:

1. Wings uniformly fuscous 2.
Wings mottled, stigma in part yellow *O. spinosus* Cam.
2. Larger, 6 mm. in length; abdomen stout, apex broadly rounded
O. uniformis sp. nov.
Smaller, 4—5 mm. in length; abdomen slender, acutely rounded at apex
O. minor Szép.

ODONTOGASTER SPINOSA, Cam.

Arch. Math. Naturvidens., vol. 30, No. 10, p. 22 (1909)
(*Caenoprymnus*).

♀. Length 6–7 mm. Bright rufo-ferruginous, the antennae, ocellar area and sheaths of ovipositor black. Wings fuscous, with paler, yellowish brown markings. From the base nearly to the basal vein pale, then with a fuscous area in the base of the first cubital and all of the discoidal cells, just beyond with a narrow hyaline band, beyond fuscous except for hyaline line on second transverse cubitus; basal two-thirds of stigma yellow, veins piceous. Head shining above, the ocelli in a small triangle, temples rather short, rounded, the head nearly twice as broad as thick; front weakly excavated; face finely punctate, clypeus with its upper margin indicated by a fine raised line. Eyes of moderate size, oval; malar space half as long as the eye, with a shallow, but distinct furrow. Antennae noticeably shorter than the body, many jointed, but with the joints all short; scape simple, oval, less than twice as long as thick; three basal joints of flagellum nearly equal, less than twice as long as thick; joints beyond to the tapering tips of antennae, becoming quadrate. Mesonotum smooth, with deep parapsidal furrows, the middle lobe protuberant; scutellum triangular, convex with a punctate line at base; propodeum convex, smooth. Pleurae shining, smooth, mesonotum with a broad, deep groove below the tegulae; spiracular groove of metapleura absent anteriorly. Abdominal petiole strongly protuberant medially behind, the central portion rugose, bounded laterally behind by a broad groove; spiracular carina strong, entire; lateral groove deep, rugose. Remainder of abdomen rugose; broadly

oval, twice as long as wide; no longitudinal striations; second segment longer than the third, with a small triangular, nearly smooth median area, prolonged as a line behind; laterally with a pair of deep striate grooves that converge behind; suturiform articulation rather narrow, but strongly crenulate; anterior corners of third segment very large, but indistinctly separated; those of fourth and fifth respectively smaller and more distinctly separated, the sutures at the base of these segments deep, striate; fifth segment slightly longer than the fourth, its apical margin rounded, the lateral edge more than half as long as the median line; teeth on margin broad at bases, rather irregular. Nervulus interstitial; radial cell nearly reaching the wing tip; third section of radial vein as long as the others combined, second four times as long as first and more than twice the length of the second transverse cubitus; first discoidal cell but little narrowed basally, with a rather long petiole above; base of cubitus straight; recurrent nervure received at tip of first cubital cell; second cubital cell parallel. Ovipositor two-thirds as long as the abdomen.

A female from Mfongosi, Zululand (W. E. Jones), April 1916, and another from the same locality, May, 1917.

This species is most nearly related to *O. abyssinica* Szépligeti, but is evidently quite distinct.

ODONTOGASTER MINOR, Szép.

Two specimens from Mfongosi, Zululand (W. E. Jones), May 1916 and April 1917.

ODONTOGASTER UNIFORMIS, sp. nov.

♀. Length 6 mm. Bright rufo-ferruginous; antennae, spot at each side of ocellar space, but not the space between the ocelli, and sheaths of ovipositor black; wings uniformly dark fuscous, with an oblique hyaline streak at the basal angle of the second cubital cell and another along the edges of the second transverse cubital vein; stigma and veins black. Structurally almost identical with *O. spinosa* Cameron and differing only as follows: median lobe of mesonotum more prominent; scutellum strongly convex; separated corners of fourth and fifth abdominal segments of equal size; teeth on margin of fifth segment very slender at bases; ovipositor half as long as the abdomen.

Type from Mfongosi, Zululand (W. E. Jones), April 1916; another from the same locality, May 1917.

This species resembles *O. minor* in color, but the abdomen is

broader, with the middle space of the first segment strongly raised, and with a basal area on the second segment. It is also very much larger.

RHYTIMORPHA, Szépligeti.

Termes. Füzetek, vol. 24, p. 359 (1901).

RHYTIMORPHA COCCINEA, Szépligeti.

Termes. Füzetek, vol. 24, p. 359. (1901).

This species, originally described from the Congo, is represented by a female from Jackal's Water, Bushmanland (R. M. Lightfoot), October 1911.

On account of the dentate apex of the abdomen and general color, this genus resembles *Odontogaster*; but the radial cell is much shorter, the head much thicker, the eyes round, the impressions on the second abdominal segment divergent behind, the second cubital cell is widened apically and with a long petiole at base, the corners of the third segment are deeply separated, and the apical teeth on the abdomen are less acute.

CURRIEA, Ashmead.

"*Curriera*" of Cameron, Szépligeti *et al.*

There are several species of this genus described from Equatorial and South Africa and two are contained in the present collection. The eyes of the female are very large, much as in the males of certain *Iphiaulax* and related genera. The most remarkable feature of *Curriea* is, however, the peculiar disposition of the veins surrounding the brachial or lower discoidal cell, which also sometimes contains a chitinized macula like the spots in the disco-cubital cell of the Ichneumonid *Henicospilus*. Due to the distortion of this cell the submedian cell is sometimes distinctly shorter than the median, and the neuration of this area reminds one of that of the Rhogadine, *Gyro-neuron* and its allies, as already noted by Baker. Just what relation *Curriea* bears to *Aphrastobracon* and *Hewittella*, I cannot tell, as I do not know the latter genera in nature.

CURRIEA FLAVOMACULATA, Cam.

Rec. Albany Mus., vol. 1, p. 157 (1905) (*Megalommum*)

One female from Molopo, Bechuanaland.

CURRIEA STRIATA, Cam.

Arch. Math. Naturvidens., vol. 30, No. 10, p. 24 (1909).

One female from Mfongosi, Zululand (W. E. Jones).

BACUMA, Cameron.

Trachybracon Szép. Ann. Mus., Nat. Hungarici, vol. 4, p. 549 (1906).

Key to Species.

1. Ovipositor short, but little longer than the body; wings smoky with paler markings *fumipennis* Cam.
 Ovipositor long, more than twice as long as the body; wings black with pale or orange markings 2.
2. Median basal area of second abdominal segment entirely smooth; hind legs partly black *maculiventris* Cam.
 Median area striated at least in part; legs entirely red *rufa* Cam.

BACUMA RUFA, Cameron.

Ann. Transv. Mus., vol. 2, p. 194 (1911).

A female from Umvuna, Kenya Colony, July 10, 1917 is about the size of the type and another from Rooiberg, Waterberg Distr., Transvaal, Dec. 2, 1911 measures fully 24 mm. Structurally both are almost identical although the basal area of the second segment is larger and more finely striate in the large specimen which also has the abdominal sculpture forming more or less longitudinal reticulations. A third female received later from Tsumeb, S. W. Africa. (L. W. Tucker), Dec. 1919, agrees exactly with the Rooiberg specimen in size and sculpture.

This genus appears to be very much like *Rhamnura* Enderlein in many particulars; it does not lack the parapsidal furrows, however. *Trachybracon* appears to be identical.

CHELONOASTRA, Ashmead.

In its typical form this genus is easily recognizable by the peculiar form of the abdomen and hairy eyes. It was originally based on two Japanese species and I have another from Formosa which appears to be structurally very similar to the type species. Three South African species are included in the present collection but they differ in having the eyes very sparsely hairy, nearly bare, and in lacking a distinct median area on the second segment of the abdomen as well as in the strongly arcuate, not straight suturiform articula-

tion. I strongly suspect, therefore, that it will be impossible to retain *Chelonogastra* and that it will be found to intergrade with such genera as *Iphiaulax* and some of its segregates. *Monocoila* Roman, I cannot distinguish from the description, and by comparison of East Indian and African species.

The two African forms may be distinguished as follows:

- | | |
|---|----------------------------|
| 1. Malar space about half as long as the width of the rather large eye; third abdominal segment but weakly declivous behind | 2. |
| Malar space nearly as long as the width of the smaller eye; third abdominal segment declivous behind | <i>rotundula</i> sp. nov. |
| 2. Second to fifth abdominal tergites all coarsely rugose-reticulate | |
| | <i>elongatula</i> sp. nov. |
| Second and third tergites coarsely rugose-reticulate; fourth and fifth much more finely sculptured | <i>orbiculata</i> sp. nov. |

CHELONOASTRA ROTUNDULA, sp. nov.

♀. Length 4—5.2 mm.; ovipositor sheaths as long as the second abdominal segment. Bright fulvous; antennae, ocellar spot, last joint of tarsi, and ovipositor black; wings evenly fuscous; stigma and veins black. Head strongly transverse, fully twice as long as thick; ocelli on a small equilateral tubercle; temples rapidly narrowed behind the eyes; head above smooth and polished; face shining, shagreened; clypeal foveae very prominent. Eyes small, oval, distinctly, but sparsely pilose; inner margins weakly emarginate above; malar space as long as the width of the eye, with a poorly impressed furrow; front impressed just above the antennae, with a median impressed line extending nearly to the ocelli; scape of antennae short, oboval, simple at apex; first flagellar joint as long as the second, half longer than thick; antennae tapering, almost as long as the body. Mesonotum smooth, with distinct, but not deep parapsidal furrows; middle lobe not prominent; scutellum moderately convex, with a punctate groove at base. Propodeum smooth, convex. Abdomen broad, apical portion of the third segment very convex and strongly declivous at tip. First segment with the median part coarsely rugose, triangular; lateral area of equal width with a carina along the middle; second and third segments rugose-reticulate, the suturiform articulation strongly curved forward on the disc where it is broad and coarsely striate, laterally it is straight and directed obliquely forward. Second segment with a minute, not very clearly defined basal median area which is extended back on to the third segment as an indistinct median carina; length equal to a little more than half the basal width; on each side of the disk with a shallow,

transversely striate groove extending from the anterior angle to the posterior edge; these grooves scarcely convergent behind. Apex of third segment arcuately rounded, lateral corners large, directed obliquely forward along the sides of the second segment; fourth and fifth segments almost as roughly sculptured as the third, the fourth greatly raised between apex and base, the latter with a crenate line; fifth segment deeply, triangularly incised at apex. Ovipositor, stout, dagger-shaped, its sheaths broad, thinly hairy. Pleurae entirely smooth, the mesopleura with the usual two impressions above. Legs stout, more strongly fulvous pubescent than the remainder of the body. Radial cell ending considerably before the wing-tip, the third section, of radius almost as long as the other two together, first section nearly as long as the first cubital cell; second cubital cell long, slightly widened at the extreme tip; second transverse cubitus less than half as long as the second section of the radius; recurrent nervure almost interstitial; first section of cubitus straight, the first discoidal cell with a long stalk above.

Type from Mfongosi, Zululand (W. E. Jones), February, 1914. Paratype from Komati Poort, East Transvaal (R. W. Tucker), November 1913.

CHELONOASTRA ELONGATULA, sp. nov.

♀. Length 6 mm.; ovipositor sheaths as long as the second and third segments of abdomen. Bright fulvous; antennae, ocellar spot, last joint of tarsi, and the ovipositor with its sheaths, black; wings light fuscous, darker at apex. Head strongly contracted behind, about twice as broad as thick; ocellar tubercle rather large, the posterior ocelli twice as far from the eye as from one another; head above smooth and shining; front weakly impressed above the antennae, with a fine median impressed line; face polished and distinctly emarginate next to the antennae; malar space about half the width of the eye, with a rather indistinct furrow. First and second flagellar joints of equal length. Mesonotum, scutellum and propodeum smooth and shining; parapsidal furrows shallow, but distinct and complete; scutellum strongly convex, with a crenate furrow at the base. Entire upper surface of abdomen coarsely rugose-reticulate. First segment with the median convex portion very large, triangular; side portion with a strong carina above the margin, separated from the median area by a series of large deep foveae; second segment almost as long medially as wide at the base, with a minute triangular area basally, prolonged along the median line to the tip of the segment as a weak, indistinct carina; suturiform articulation very slightly bent

forward at the middle, obliquely extended forward at the sides, delicately impressed and only very finely crenulated. Third segment not very convex, although it is very suddenly contracted at the extreme apex medially; anterior corners large, triangular, lying at the sides of the second segment; posterior margin not evenly arcuate, more strongly curved medially than at the sides. Constrictions between third, fourth and fifth segments very deep, the fifth broadly, deeply excised medially behind. Ovipositor stout, but more slender than in the preceding species; its sheaths thinly hairy. Pleurae smooth; subspiracular groove on metathorax very broad. Legs not noticeably stout, more strongly yellowish pilose than the body. Radial cell ending considerably before the tip of wing; third section of radius as long as the other two combined; second cubital cell long, not perceptibly widened at apex; second section of cubitus three times as long as the second section of the radius; cubitus straight at base the first discoidal cell not distinctly petiolate above; recurrent nervure almost interstitial.

Type from Cape Province.

CHELONOGASTRA ORBICULATA, sp. nov.

♀. Length 4.3 mm. Yellowish fulvous, the mesonotum and propodeum ferruginous; ocellar spot, antennae, tips of last tarsal joints, ovipositor and its sheaths black; wings evenly and rather strongly infuscated. Head less than twice as broad as thick, sharply narrowed behind the eyes; ocelli and front as in the preceding species. Face shining, very delicately sculptured. Eyes large, broadly oval, not distinctly emarginate next to the antennae; malar space short, half as long as the width of the eye, with a distinct furrow. First and second flagellar joints of equal length. Mesonotum, scutellum and propodeum smooth and shining; parapsidal furrows complete, rather strongly impressed, the median lobe of the mesonotum distinctly raised anteriorly. Scutellum with a row of closely placed foveae at base, convex. Basal three segments of abdomen coarsely rugose-reticulate, the reticulations on the second widely separated; fourth and fifth confluent punctate or shagreened. Middle portion of first segment smooth at base; carina at the side close to the margin anteriorly, separated from the median area by a series of foveae; second segment at the base with a rather small, but well developed median smooth area, prolonged behind as a barely visible carina to the end of the segment; suturiform articulation crenulate or shortly striate, feebly and evenly bent forward medially and obliquely so at the sides; lateral groove rather deep; anterior corners of third segment separated, rather

large, rounded; those of fourth smaller, but similar and distinct; apex of third segment evenly arcuate, not very strongly depressed; constrictions between segments three, four and five not so deep as in the preceding species; apical emargination of fifth broad and rather shallow. Pleurae smooth; subspiracular furrow on metathorax narrow and deep. Legs rather slender, conspicuously yellow-haired as are also the propodeum and abdomen. Radial cell nearly attaining the tip of the wing, third section of radius a little longer than the other two together; first section half as long as the transverse cubitus; second section over twice as long as the second transverse cubitus, the second cubital cell slightly narrowed toward tip; recurrent nerve nearly interstitial; first discoidal cell with a distinct petiole, cubitus not bent at base.

Type from Mfongosi, Zululand (W. E. Jones), March 1917.

GASTROTHERCA, Guérin.

There are several species in the collection, but I have been unable to identify any of them definitely. Cameron, Enderlein and others have described several species from South Africa and other parts of the continent, some of which should be represented. *G. furcata* Guérin is, I believe, not represented and probably does not extend so far south.

The form of the abdomen has led to the placing of *Gastrotheca* in the subfamily *Cheloninae*, undoubtedly an incorrect position. From the form of the mouth, with a large semicircular clypeal opening, immargined head and venation it should be placed in the *Braconinae* in spite of its superficial resemblance to *Chelonus* and related genera. The median and submedian cells are of equal length, the radial cell is quite long, although not attaining the wing tip, the second cubital cell is long (twice as long above as it is high) and the submedian cell of the hind wing is very short. Aside from the abdomen, the remainder of the body, head and antennae also show the various more or less indefinable characters of the *Braconinae*. In *Chelonogastra* we find in a way a transition between *Gastrotheca* and typical Braconines, although of course nothing like the extreme abdominal modification of the latter genus.

VIPIO, Latreille.

I am unable to distinguish satisfactorily the several similar species of this genus without an examination of all the types.

VIPIO FUMIPENNIS, Cameron.

Ann. South African Mus., vol. 5, p. 64 (1906).

A male labeled "*Vipio fumipennis* Cam., sec. type" is remarkable in having the fourth abdominal segment greatly elongate, and very nearly twice as long as the third, with the following very short. Unfortunately the female is unknown.

ODESIA, Cameron.

Ann. South African Mus., vol. 5, p. 79 (1906).

This genus comes near *Glyptomorpha* and its allies, but the submedian cell is slightly though distinctly shorter than the median. Otherwise it is almost entirely similar. Cameron makes no mention of the fact that the lateral margins of the abdomen are tuberculate or dentate; at the side of the second segment there are three such projections, a small one near the anterior corner, one at the middle and one before the tip; at the base of the third and fourth are similar tubercles. In a male, probably of another species, from Zululand, these tubercles are present, but not very noticeable. The genus *Zalyptogastra* Ashmead from Siam has the abdominal segments modified in a similar way, but in this case the submedian cell is longer than the median.

Quite possibly *Nundinella* may be a synonym

ODESIA LONGICORNIS, Cameron.

Ibid., t. c., p. 80. (1906).

One female from the Junction of the Crocodile and Marico Rivers, Transvaal (R. W. Tucker), February, 1918.

SUBFAMILY EXOTHECINAE:

ARCHIBRACON, Saussure.

Pseudobracon, Szépligeti, Gen. Ins. fasc. 22, p. 49 (1904).

Schulz, Zool. Ann., vol. 4, p. 68 (1911).

ARCHIBRACON SERVILLEI, Brullé.

Bracon servillei Brullé, Hyst. Nat. Ins. Hymén, vol. 4, p. 418 (1846).

Pseudobracon africanus Szép. Gen. Ins. fasc. 22, p. 49 (1904).

Exothecus tibialis Cam. Rec. Albany Mus., vol. 1, p. 156 (1905).

Exothecus canaliculatus Cam. ibid. t. c. p. 167 (1905).

Specimens of both sexes are in the collection from Mfongosi, Zululand (W. E. Jones) and Umlhali, Natal (K. H. Barnard).

ARCHIBRACON CAMERONI, nom. nov.

Exothecus flaviceps Cam. Ann. South African Mus., vol. 5, p. 73 (1906) (*non Archibracon flaviceps* Brullé, 1846).

One female from Eshowe, Zululand (Morley), December 1916.

MESOBRACON, Szépligeti.

MESOBRACON FENESTRATUS, sp. nov.

♀. Length 12 mm. Head and four anterior legs brownish yellow; thorax and base of hind legs ferruginous; abdomen rufo-piceous, pale at extreme tip; antennae, hind tibiae and tarsi and sheaths of ovipositor black. Wings yellow with black bands, the yellow very deep basally and paler apically; basal black band filling the second discoidal cell and extending in even width to the costal margin; apical band curved, extending straight across the wing, then following the posterior, apical and anterior margin where it is narrowed and almost meets the base of the band beyond the stigma; hind wing with a large curved black mark apically behind, which gives off a projection that follows the posterior margin nearly to the base of the wing as a very narrow stripe; stigma yellow, with black tip; veins ferruginous basally, fuscous apically. Head very broad behind the eyes, a little wider than thick; smooth except the face which is finely rugulose above; frontal impression deep, more or less divided by a raised median line; ocelli very close together; eyes rather large, oval, the malar space one-fourth as long as the eye, with a foveate impression. Antennal scape slightly dilated below at apex, twice as long as thick; first joint of flagellum longer and thicker than the second, twice as long as thick. Mesonotum convex medially in front, the parapsidal furrows not distinctly impressed. Scutellum with a very narrow punctate line at the base. Propodeum smooth, slightly convex. Abdomen elongate oval, broadest at the tip of the third segment, as long as the head and thorax; middle of first, all of second, third and fourth, and extreme base of fifth segment longitudinally striate, the striae rather coarse on the first and second segments but becoming much finer beyond; apical rim of segments 1, 3, 4, and 5 smooth, separated by a crenate line except on the first segment. First segment as long as broad, much narrowed basally; middle portion not greatly narrowed basally, sides smooth, concave, both lateral carinae complete, separated by a smooth fur-

row; no median basal area present on second segment although the striae diverge at this point; lateral angles separated, inwardly forming a smooth triangular raised area or wart; thyridial impression broad and deep; suturiform articulation striate; third segment shorter than the second, its lateral angles large, smooth internally; fourth with the angles scarcely separated, but with the smooth spot evident. Ovipositor as long as the abdomen, its sheaths slender. Pleurae smooth and shining; mesopleura above with an impressed furrow. Legs slender, but the posterior tibiae rather stout and densely pubescent. Submedian cell considerably longer than the median; radial cell almost reaching the wing tip; third section of the radius shorter than the second which is three times as long as the first; cubitus angulate at the extreme base; second cubital cell slightly widened apically, the second transverse cubitus nearly half as long as the second section of the radius; first discoidal cell with a short petiole above; recurrent nervure received distinctly before the apex of the first cubital cell; nervellus thick at base, then suddenly obsolete.

Type from Olokomeji, Ibadan, Nigeria.

This species is similar to *M. pulchripennis* Szép to which it approaches more closely than to *M. maculiceps* Cam. or *M. similis* Szép. From *M. capensis* Szép, it differs in the variegated apical portion of the wings, black hind tibiae and darker abdomen.

SUBFAMILY DORYCTINAE.

ZOMBRUS Marshall.

André, Spec. Hymén. Eur., vol. 5 bis, p. 10 (1897).

Trimorus. Kriechbaumer, Berliner Ent. Zeit. vol. 39, p. 60 (1894) (*non* Förster).

Neotrimorus. Dalla Torre, Cat. Hymen., vol. 4, p. 250 (1898).

Acanthobracon. Szépligeti, Termes, Füzetek, vol. 25, p. 47 (1902) (*non* Kriechbaumer).

Trichiobracon. Cameron, Journ. Straits. Br. Roy. Asiatic Soc., vol. 44, p. 104 (1905).

Trichodoryctes. Szépligeti, Ann. Mus. Hist. Nat. Hungarici, vol. 4, p. 599 (1906).

Numerous names have been applied to this genus and a number of species have been described from Southern and Equatorial Africa. The species appear to be extremely variable in color and very uniform in structure. There are a series of specimens before me, but I do not feel that they can be satisfactorily determined without the aid of much more extensive material.

XENOLOBUS, Cameron.

XENOLOBUS RUFUS, Cam.

Ann. Transv. Mus., vol. 2, p. 200 (1911).

This remarkable insect was described from a male taken at Pretoria. There is another male in the present collection from Salisbury (J. O'Neill Jan. 13, 1914). The large raised coloured lobes on the sides of the upper surface of the propodeum mentioned by Cameron are in reality composed of a dense brush of erect fine hairs; each shows a convex velvety surface, but the surface to which the hairs are attached appears to be depressed below the surrounding parts of the metanotum. Quite probably these peculiar organs represent some sense organ, or they may be exudate organs like the tufts of orange-colored hairs seen in certain myrmecophilous beetles. I know of no similar structure among the parasitic Hymenoptera, unless it be the coxal scopa present in the female of some species of *Amblyteles* (*Ichneumon*). In *Xenolobus* the tufts do not include the spiracle, which lies just below their outer edge. The tips of the tibiae, tips of the first tarsal joint and the second and third tarsal joints of the hind legs are noticeably thickened or swollen.

SUBFAMILY RHOGADINAE.

RHOGAS, Nees.

RHOGAS MELANOCERUS, Cam.

Ann. S. Afric. Mus., vol 5, p. 71 (1906).

A female from Salisbury, Southern Rhodesia. (R. W. Tucker).

RHOGAS MELANOCEPHALUS, Cam.

Ann. South African Mus., vol. 5, p. 71 (1906).

Rhogas erythrostomus Cam. Ann. Transvaal Mus., vol. 2, p. 196 (1910).

A female from Salisbury, Southern Rhodesia (D. Dodds), March 1915.

RHOGAS MELANOSPILUS, Cam.

Ann. Transv. Mus., vol. 2, p. 197 (1911).

A considerable series from De Aar (Péringuey), October, 1917 probably belong to this species. They vary greatly in color in common with the other testaceous species of the genus.

RHOGAS PICTIPENNIS, sp. nov.

♀. Length 5.5 mm. Fulvous; the head below, legs and abdomen lighter, testaceous; antennae, ocellar spot and tips of fifth tarsal joints

black; wings hyaline as far as the origin of the cubital vein, blackish beyond, the dark portion enclosing a large rounded hyaline area that extends from the base of the second section of the radius to the middle of its third section and nearly attains the costal margin of the wing although widely separated from the posterior margin; stigma and veins of dark areas piceous; those of the clear areas bright fulvous or honey-yellow. Ovipositor barely half as long as the second segment. Eyes moderately large, three times as long as the malar space, distinctly emarginate next to the antennae and in dorsal view separated by a distance equal to the transverse width of one of the eyes; ocelli large, opal, separated from one another and from the eye margin by their shortest width. Head above smooth, opaque; face finely rugulose or shagreened. First three joints of flagellum of antennae subequal, each twice as long as thick. Mesonotum sub-shining, parapsidal furrows weakly indicated anteriorly; groove at base of scutellum strongly curved, foveate, continued laterally from the middle of the scutellum as a broad striate, barely impressed groove; behind the scutellum is a broad impressed space extending entirely across the thorax, longitudinally striated. Propodeum moderately convex, the upper angles not produced although they form inconspicuous tubercles; medially with a weak carina at each side of which there are a few indistinct short transverse ridges. Abdomen as long as the thorax, the first three segments very weakly longitudinally striate, the median carina scarcely evident and not extending beyond the second segment; first segment as long as the second and twice as broad at apex as at base, its surface more strongly convex than usual; second segment slightly transverse, distinctly longer than the third; following shining, almost smooth. Propleura irregularly obliquely striate-rugose; mesopleura shagreened, more shining near the middle where it bears a few scattered punctures; metapleura shagreened, separated from the propodeum by a complete carina. Spurs of hind tibiae very slightly curved, pubescent; tarsal claws simple, very strongly curved apically. Stigma broad, radius issuing before the middle and almost reaching the wing-tip, the third section twice as long as the second which is in turn double the length of the first; second cubital cell slightly, but distinctly narrowed apically, its apex slightly less than half the length of the upper side; nervulus oblique, entering the discoidal cell just beyond its basal third; recurrent nervure received one-third its length before the apex of the first cubital cell; submedian cell of hind wing half as long as the median; radial cell nearly parallel, slightly constricted at the middle.

Type from Salisbury, Rhodesia (R. W. Tucker), May, 1917.

This species may be readily distinguished from others known from this region, by the pictured wings.

GYRONEURON, Kokujer.

GYRONEURON (*sens. lat.*) AFRICANUM sp. nov.

♀. Length 10-12 mm.; ovipositor very short, scarcely extruded. Brownish testaceous, with the head lighter, the thorax darker, and the abdomen, beyond the second segment, dull ferruginous; antennae, intraocellar space and all tarsi black; wings yellowish hyaline with fuscous markings; basal half of stigma and most of the venation deep yellow, the apex of stigma and the veins where the basal band crosses black; a clear-cut, narrow basal dark band across the wing just before the stigma and another below the apical half of the stigma, this latter one broken up into three spots, the posterior one of which is continuous with a band that circles along the wing tip to the middle of the radial cell; hind wing with the tip and a subapical posterior spot slightly dusky. Eyes large, emarginate in front and narrowed above: the malar space about one-fifth the eye height, without furrow. Ocelli very large and prominent, close together and separated from the eyes by less than their own diameter; temples obliquely, not strongly narrowed to the very strong carina; occiput almost truncate behind, although the carinae turn inward toward the ocelli; head nearly smooth above, the face slightly transversely wrinkled; clypeus elevated in the form of a horse-shoe; antennae fully as long as the body, the flagellum densely clothed with bristly hairs; scape large, twice as long as thick; first joint of flagellum one-half longer than thick; following but little longer than thick, the apical ones growing elongate as they are much more slender, but scarcely shorter than the basal joints; palpi simple, the second joint of the maxillary slightly, but not distinctly swollen. Mesonotum strongly trilobed anteriorly, shagreened, the parapsidal furrows deep and crenulate, but fading out behind where the middle lobe is distinctly concave: reticulate, with several quite evident carinae. Scutellum with a broad foveate groove at base; its sides and a broad impression behind longitudinally wrinkled. Propodeum short, its posterior part sharply declivous; the posterior angles carinate and the elongate spiracle placed on an obtuse tubercle; dorsal surface weakly reticulated with a median carina in the form of an inverted Y: posterior slope deeply reticulate. Propleura obliquely wrinkled; mesopleura rather shining, minutely punctulate, rough

above near the tegula; metapleura punctulate, with a very deep impressed line in front and a carina behind, its lower anterior angle produced into a large blunt tooth. Abdomen sessile; first segment twice as broad at tip as at base, not much longer than broad; second segment as long as the first, one-fourth longer than wide; third transverse, two-thirds as long as the second; first three segments coarsely striate or ribbed, reticulate between the striae on the first and second; striae finer near tip of third; first segment with a broad apical impression on each side; suturiform articulation deep, the abdominal striae crossing it without interruption; apical segments very much shortened, shining. Legs very slender, except the tarsi which are considerably thickened and densely hairy; tibial spurs nearly straight, pubescent externally; tarsal claws very stout, pectinate, with about six long, stout, closely placed teeth. Stigma narrow, lanceolate, radius issuing before the middle; upper two-thirds of basal vein much thickened and slightly sinuous; median vein swollen and angulate beneath near tip; postmedian slightly swollen and bent upward beyond the nervulus; anal vein with a lanceolate swelling just beyond the middle; first section of cubitus strongly sinuous; third section of radius half longer than the other two combined, first two-thirds the length of the second which is one-quarter longer than the second transverse cubitus; second cubital cell slightly narrowed apically; recurrent nervure entering the first cubital cell near its apex; nervulus entering the discoidal cell distinctly before the middle; submedian cell of hind wing fully half as long as the median; radial cell narrow at base, much contracted before middle, then broadly expanded to apex.

Type from M'fongosi, Zululand (W. E. Jones), April, 1916; paratype from same locality, January, 1917.

This species is a *Gyroneuron* only in the wide sense. As I have not seen the several genera like *Gyroneuron*, I cannot place it more definitely. It does not fit well into any of Baker's recent Philippine genera. It is the first of this group to be found in Africa.

SUBFAMILY AGATHIDINAE.

DISOPHRYS, Förster.

The South African species known to me may be recognized by the following key:

- | | | |
|---|-----------|-------------------------|
| 1. Wings entirely or in great part hyaline; body pale | | 2. |
| Wings black or fuscous | | 4. |
| 2. Legs entirely pale | | <i>iridipennis</i> Cam. |
| Hind tarsi and tips of their tibiae black | | 3. |

- | | | |
|----|--|---------------------------|
| 3. | Wings hyaline, without darker markings | <i>lutea</i> Brullé. |
| | Wings with an infuscated band before the middle and the apical third infuscated | <i>picturata</i> sp. nov. |
| 4. | Thorax, abdomen and legs entirely rufous, except for brown tips to the joints of the posterior tarsi | <i>nataliensis</i> Szép. |
| | Thorax in part, abdomen entirely and legs in part black | 5. |
| 5. | Head and hind legs entirely black | <i>dichroa</i> Brullé. |
| | Head entirely, and hind legs before tibiae, rufous | <i>pedalis</i> sp. nov. |

DISOPHRYS PICTURATA, sp. nov.

♂. Length 8 mm. Pale fulvous or luteous; antennae black, tips of hind tibiae, including the spurs, and the hind tarsi black. Wings yellowish hyaline basally as far as the nervulus; blackish fuscous beyond, with a pale band crossing below the basal half of the stigma; basal half of the latter yellow; apical half and the veins on the dark parts of the wing piceous; veins on light parts fulvous; hind wing correspondingly banded. Face shining, coarsely and closely punctate; clypeal foveae large and deep; apical margin of clypeus truncate, its surface with shallow punctures; malar space short, two-thirds as long as the third antennal joint, without furrow; vertex smooth; ocelli large, posterior pair separated from one another by their own diameter and from the eye by only a slightly greater distance; ocellar carina complete. First and second joints of antennal flagellum of equal length. Mesothorax deeply, sparsely punctate; middle lobe without grooves but with a median raised line anteriorly; scutellum with the basal furrow broad, transversely striate. Propodeum with the usual areolation; superomedian area acute anteriorly, the petiolar narrowed behind; spiracle very narrow, almost linear. Propleura smooth; mesopleura finely punctate; metapleura finely reticulate. First segment of abdomen long and narrow, nearly three times as long as wide at the tip, the spiracles just before the basal third; second segment two-thirds as long as the first. Legs slender, longer spur of hind tibiae two-thirds as long as the first tarsal joint; claws of four anterior tarsi bifid at tip. Radial vein extending halfway from the stigma to the wing tip; radial cell half as broad as the stigmal; basal vein bent at base; submedian cell distinctly shorter than the median; second cubital cell more or less pentangular, with a distinct upper side; recurrent nervure received the length of the first transverse cubitus before the tip of the first cubital cell; submedian cell in hind wing considerably less than half the length of the median.

Type from the Junction of the Crocodile and Marico Rivers, Transvaal (R. W. Tucker), February 1918.

This is very different in color from its South African congeners, resembling a *Cremnops* in the color of the wings. The first abdominal segment is unusually long.

DISOPHRYS PEDALIS, sp. nov.

♂. Length 10 mm. Head, most of thorax, and most of legs rufoferruginous; antennae, ocellar area, propodeum, entire abdomen and hind legs beyond the femora black, the hind tibiae more or less rufous below; wings, including stigma, black, with some small irregular spots below the stigma, hyaline; entire body, except abdomen, clothed with short pale pubescence. Head more than twice as wide as thick; vertex above the complete ocellar carinae very sparsely and regularly punctate; face punctate, more coarsely and confluent above, more finely and sparsely below, on the clypeus, and on the malar space; nearly smooth behind the eyes. Eyes small, protuberant; malar space without furrow, as long as the first flagellar joint or the width of the eye; ocelli in an equilateral triangle, separated by their own diameter and from the eye by about four times their diameter. First joint of antennal flagellum almost twice as long as the second. Mesonotum punctate, the middle lobe closely so, the latter highly convex and with two rather indistinct, median, longitudinal grooves very close together. Scutellar groove divided by a single median carina. Propodeum reticulated, the areas not very clearly defined, the superomedian one very broad. First segment of abdomen about three times as long as wide at the tip, with the spiracles at the basal third, nearly half as wide at base as at apex. Propleura smooth and shining, punctate along the upper and posterior edge and at the upper corner. Mesopleura deeply and closely punctate, the oblique and posterior marginal impressions foveately punctate. Metapleura punctate-reticulate behind the vertical impression, finely punctate anteriorly. Legs stout, the posterior coxae, femora and tibiae considerably thickened; hind tarsi long and slender, the first joint three-fourths as long as the tibiae and longer than the following joints together; longer spur of hind tibiae less than half the length of the first tarsal joint; claws of hind tarsi simple, others cleft. Radial cell a little broader than the stigma; second transverse cubitus with a short external branch; basal vein curved; nervulus interstitial; second cubital cell large, four sided; quadrate; submedian cell of hind wing half as long as the median.

Type from Cape Province.

This species is rather like *D. dichroa* Brullé (= *D. bipustulata* Cameron) in color, but the head and base of hind legs are red, not

black and the head above, mesonotum and pleurae are heavily punctured, not smooth as in *dichroa*. The hind legs are much stouter also.

DISOPHRYS DICHROA, Brullé.

Hist. Nat. Ins. Hyménop., vol. 4, p. 485 (1846) (*Agathis*).

Cameron, Rec. Albany Mus., vol. 1, p. 158 (1905) (*Microdus bipustulatus*).

One specimen from Kar Kloof, Natal, 1915 (Bell-Marley); several from M'Fongosi, Zululand (W. E. Jones).

From the description of *Disophrys tarsalis* Szépligeti (Ann. Soc. Ent. Belgique, vol. 58, p. 116 (1914)), I am inclined to believe that it is this species.

DISOPHRYS NATALIENSIS, Szép.

Termes. Füzetek, vol. 25, p. 71 (1902).

Two specimens from Salisbury, Southern Rhodesia (1908). This large, rufo-ferruginous species is easily recognizable.

DISOPHRYS IRIDIPENNIS, Cam.

Xanthomicrodus iridipennis Cameron, Rec. Albany Mus., vol. 1, p. 158 (1905).

One male from Inhambane, Mozambique (K. H. Barnard), December 7, 1912 agrees well with Cameron's description. This species is the type of *Xanthomicrodus* (Cameron, *t. c.*, p. 157) which must therefore fall as a synonym of *Disophrys*.

DISOPHRYS LUTEA, Brullé.

Hist. Nat. Ins. Hyménop., vol. 4, p. 306 (1846) (*Agathis*).

Szépligeti, Mitt. Zool. Mus. Berlin, vol. 7, p. 214 (1914).

There are numerous specimens of this widespread species from Durban, Natal (Marley), March, 1915; Acornhoek, Transvaal (R. W. Tucker), November 1918; Komati Poort, Eastern Transvaal (R. W. Tucker), February 1918.

EUAGATHIS, Szépligeti.

EUAGATHIS TEREBRATOR, sp. nov.

♀. Length 10 mm.: ovipositor 7 mm. Black; the abdomen, except a dark blotch beyond the middle, and legs, except front coxae and tips of tarsi, fulvo-ferruginous; propodeum with a rufous

spot above on each side; sheaths of ovipositor black. Wings black, the front ones with a pale streak from the parastigma to the base of the nervellus; hind wings pale at base. Head strongly transverse, two and one-half times as broad as thick; occiput sloping forward on each side from the temples to the median line; seen anteriorly, the head is distinctly shorter than broad; the malar space nearly as long as the eye; ocellar tubercle raised medially as an erect, tooth-like process; each antenna inserted in a deep, inmargined impression which extends to the ocelli on each side. Front, vertex and head behind coarsely, confluent punctate; face more finely so; clypeal foveae deep, palpi simple. Antennae 37-jointed, sharply tapered near apex; first flagellar joint as long as the scape, three times as long as thick and one-third longer than the second; following growing shorter, becoming quadrate near the apex. Prothorax without foveate impressions above; although there is an impression which extends from the lower angle of the propleura upwards and across the pronotum; surface punctate-reticulate. Mesonotum irregularly, confluent punctate; median lobe with a broad, deep median impression on the anterior two-thirds; parapsidal furrows deep, meeting at a very acute angle before the scutellum; scutellar impression deep, cross-striated; surface of scutellum closely punctate, with a marginal carinate line. Propodeum nearly twice as broad as long, its spiracles large, elongate-oval; with an impression behind each spiracle outside which the margin is raised and carinate; no areas, although there are three broken and very irregular longitudinal carinae extending down the middle; surface irregularly rugose; posterior angles produced as flattened lobes. Pleurae punctate, the metapleurae more coarsely so; mesopleura with an oblique impressed groove; meso-metapleural suture with a series of foveae both before and behind it; posterior edge of metapleura raised, vertical. Legs very stout; claws of four anterior tarsi each with a long tooth within; hind coxae and femora coarsely punctate; longer spur of hind tibia nearly half as long as the metatarsus. Abdomen short, as long as the thorax and narrower; broadest at the base, where it is as wide as the apex of the propodeum; first segment slightly narrowed behind, its middle portion elevated, narrower at the base, punctate except on the disc and along the posterior margin; side pieces smooth, each more than half as wide as the middle portion at base and narrowed almost to a point apically; second segment with a transverse impressed line at the middle, behind this sparsely covered with large, shallow punctures; remaining segments smooth. Radial cell at middle almost as broad as the stigma, extending one-third the way from the apex

of stigma to wing tip; base of cubitus present as a stump; areolet large, quadrangular; submedian vein much enlarged toward base; basal vein thickened above; nervulus interstitial; submedian cell in hind wing nearly half as long as the median.

Type from Durban, Natal (C. N. Barker) Feb. 23, 1917.

BRAUNSIA, Kriechbaumer.

BRAUNSIA FENESTRATA, Kriechbaumer.

A female of this species bears the label: "Host, *Chardisia* sp." Durban, February 16 (Marley)."

There are also two other species of *Braunsia*, very distinct from the numerous ones already described from Africa and the regions farther east.

BRAUNSIA MIMETICA, sp. nov.

♀. Length 10 mm.; ovipositor 10 mm. Thorax, antennae and four posterior legs entirely black; head above and abdomen piceous, the latter almost black at base and fuscous at tip; face dull ferruginous; cheeks, palpi and front legs pale yellow; wings pale yellowish, the tips blackened beyond the middle of the radial cell, stigma and veins pale yellow, only the apical half of the radial vein dark; hind wings dark at tips. Supra-antennal depressions unusually large, extending upward to the sides of the ocellar triangle; posterior ocelli more than twice as far from one another as from the eye-margin; cheeks as long as the antennal scape, slightly over half the length of the eye. Clypeal foveae deep, but not large, the clypeal area and the lower median part of the face forming a strongly elevated, triangular area. Antennal scape scarcely twice as long as thick; first joint of flagellum fully as long as the scape; second, third and fourth growing distinctly, though not rapidly shorter. Prothorax above with a deep fovea on each side, not meeting on the dorsal surface, but connected there by a short impressed line; behind this the pronotum is only slightly concave before the mesonotum. Middle lobe of mesonotum only moderately convex (for this genus), the median pair of impressed lines deep and well separated; impunctate as are also the lateral lobes. Postscutellum triangular, deeply excavated, with a median raised line. Propodeum with a short median raised line at base, but without other distinct carinae; basal portion, extending to apex medially, irregularly wrinkled; sides behind smooth. Pleurae smooth, impunctate; propleural furrow not punctate or crenate; the three lower mesopleural grooves

irregularly and rather weakly crenate; lower anterior angle of metapleura produced into a small, obtusely rounded lobe. Striae of abdomen extending almost to the apex of the third segment, coarse and clear-cut on all the segments, although they are more widely separated and a trifle more irregular on the first segment; the latter segment with a very prominent carina near the sides, more highly elevated on its basal half; below this with a ridge including the spiracle, separated from the extreme lateral edge by a groove; first, second and third segments of nearly equal length; the second slightly shorter, its transverse impression placed near the posterior third, shallow as is also the impression on the third segment which is placed just behind the middle; apex of third segment transversely aciculate, following smooth. Second cubital cell pentangular, the upper side as long as either of the external ones.

Types from Berea, Durban, Natal (W. W. B. Marley), November, 1907.

BRAUNSI *EXCELSA*, sp. nov.

♂. Length 10 mm. Black; head below eyes pale yellow; front legs entirely fulvous; middle legs fulvous with the coxae above, second joint of trochanters, base of femora and tarsi, except extreme base, fuscous; wings yellow at base, black beyond the nervulus except for a transverse yellowish band, narrower behind, which includes the basal half of the stigma; costa and veins of dark portion piceous, remainder and basal half of stigma yellow. Ocelli large, the posterior pair more than twice as far from the eye as from one another; supra-antennal impressions large and deep, extending past the sides of the ocellar area; clypeal foveae large and deep, the clypeus and middle of face below very strongly raised; malar space one-third as long as the eye. Scape of antennae scarcely twice as long as thick; first flagellar joint fully as long as the scape, slender, less than one third as thick as long; second and third growing imperceptibly shorter. Prothorax with the large lateral impressions nearly meeting above where they are connected by a short grooved line; pronotum behind this with some large, irregular punctures, then concave before the mesonotum. Middle lobe of mesonotum very highly convex, its pair of median grooves well separated, unusually large and deep; surface with scattered, small, setigerous punctures, more numerous on the lateral lobes. Postscutellum deeply concave, rimmed, elevated at apex. Propodeum coarsely, irregularly wrinkled above, with a strong median carina on basal third which gives off a pair of short oblique branches at its tip;

sides nearly smooth, with an apical carina extending forward to the middle of the propodeum well above the subspiracular groove. Pleurae with all of the impressions strongly crenulate, the lower angle of the metapleura rounded, scarcely produced. Second and third abdominal segments rather finely striate, the apex of the third finely punctulate; first segment striate like the others near apex, but nearly smooth basally; middle portion bounded by a moderately strong carina basally, outside which it is but little concave; spiracular ridge extending to apex, grooves on second and third segments as deep and sharp as the suturiform articulation, each placed distinctly, but not far behind the middle of the segment. Second cubital cell nearly triangular, acute above and with the outer edge nearly straight.

Type from Stella Bush, Natal (Marley), 1918.

CREMNOPS Förster = BRACON Fabr., non auct.¹

CREMNOPS (BRACON *sens. nov.*) ZULULANDENSIS, sp. nov.

♀. Length 10-11 mm.; ovipositor 4 mm. Head and thorax ferruginous, the front and vertex black; abdomen black, sometimes rufous at the extreme base; legs ferruginous, the hind tibiae and tarsi black; middle tarsi piceous; wings black, an irregular hyaline blotch below the base of the stigma and another outside the recurrent nervure. Head twice as broad as thick, the temples much narrowed and the occiput deeply concave; frontal impression bounded by a carina that extends to the ocelli; ocellar tubercle acutely elevated between the posterior ocelli; front and vertex smooth and shining; face faintly punctate; head, seen from the front, as long as broad, the malar space as long as the eye; clypeus strongly raised medially; palpi simple. Antennae long, about 47-jointed; first flagellar joint longest, four times as long as thick. Pronotal foveae deep, distinctly separated above. Mesonotum elongate, not strongly convex; middle lobe with scattered punctures anteriorly; lateral ones nearly smooth; median impression double, not very deep; parapsidal furrows sharply impressed, meeting in an impression before the scutellum; posterior corners with a linear impression inside the raised lateral margin. Basal scutellar impression very broad and deep, smooth. Propodeum with a long median area and pleural

¹ Although there is no question of the necessity of applying the name *Bracon* to this genus, I have used the commonly accepted term, *Cremnops*, as the change of names involves many homonyms and other nomenclatorial matters which can be cleared up only in a general monograph or catalogue.

carinae, with more or less distinct transverse carinae between them. Spiracle large, broadly oval. Propleurae smooth, with a crenate line behind and a few fine punctures above; mesopleura with scattered punctures below, nearly smooth above; oblique impression very faint; meso-metapleural suture with a foveate line before and behind it; metapleura slightly punctate behind. Hind coxae with coarse punctures above. Abdomen distinctly petiolate, the first segment twice as wide at apex as at base and more than three times as long as its greatest width; smooth, in lateral view appearing constricted at the middle; second segment nearly as long as the first, without transverse impression; sutures beyond very indistinct. All the tarsal claws with a large tooth externally, larger than the apex of the claw; longer spur of hind tibia half the length of the metatarsus. Stigma narrow; radial cell moderate, a little wider at the middle than the stigma, reaching nearly halfway from the apex of the stigma to the wing-tip; areolet rather large, quadrangular; base of cubitus present as a stump; submedian vein enlarged basally; nervulus distinctly postfurcal; submedian cell in the hind wing less than half as long as the median.

♂. Practically like the female, even in size.

Type from M'fongosi, Zululand (W. E. Jones), December 1911. Three paratypes, one a male, from the same locality, December, March and May.

This species is very similar to the South African *Megagathis*, but the parapsidal furrows are distinct, as well as the median mesonotal impression.

CREMNOPS (BRACON *sens. nov.*) OBSOLESCENS sp. nov.

♀. Length 8 mm.; ovipositor 4 mm. Light ferruginous, the apical part of the abdomen darker; head above, the antennae, tips of hind tibiae, and hind tarsi entirely, black; face infuscated above. Wings black with a hyaline band, narrower toward the posterior margin and limited in front by the bases of the cubital and radial veins; basal and submedian cells also paler basally except along the veins; hind wing with a spot below the stigma and the apical fourth dark; basal half of head almost three times as broad as thick; temples obliquely narrowed, occiput very deeply excavated; frontal impression shallow, its marginal carina extending to the ocelli; tubercle between posterior ocelli not prominent. Head, seen from the front, scarcely longer than broad, the malar space as long as the eye; face shining, faintly punctulate; vertex and head behind, smooth and shining; palpi simple. First joint of flagellum one-fourth

longer than the second; joints beyond gradually decreasing in length, not becoming quadrate till almost at the tip of the antenna. Pronotal pits close together, but not confluent. Mesonotum shining, with a few scattered punctures; median lobe moderately convex in front, its median impression not very clearly marked, double; parapsidal furrows deep; lateral margin of mesonotum carinate, more strongly so near the posterior angles where there is a deep submarginal groove. Basal impression of scutellum smooth, deep, with a faint median carina. Propodeum with a long, narrow median area, a longitudinal carina above the spiracle and one below it, these connected by irregular cross carinae except on the posterior face. Propleura faintly punctate above and behind, its oblique impression broad: mesopleura with a few large, shallow punctures below and in front, its oblique impression indicated as a line, but only near the middle coxa; meso-metapleural suture with a foveate line before and behind it; metapleura almost impunctate; spiracle large, oval. Abdominal petiole less than twice as broad at apex as the base; two and one-half times as long as its greatest width; very faintly constricted before the middle; surface shining as is the whole abdomen: second segment three-fourths as long as the first, its basal lateral impressions weak, the transverse groove at the middle not clearly indicated. Legs stout; hind coxae above and their femora externally and internally, punctate. Tarsal claws bifid on all the legs, the inner brach stouter, especially on the hind leg; longer spur of hind tibia not quite half as long as the metatarsus. Radial cell as broad as the stigma, reaching two-fifths the distance from the latter to the wing-tip: base of cubitus present as a long swollen stump; areolet large, quadrangular; submedian vein swollen basally, but very pale and scarcely chitinized; anal vein enlarged on its basal half; nervulus postfurcal by one-third its length.

Type from Mfongosi, Zululand (W. E. Jones), December 1914.

SUBFAMILY CARDIOCHILINAE.

CARDIOCHILES, Nees.

1. Temples and head above distinctly punctate; middle lobe of mesonotum evenly convex; body entirely black 2.
- Temples and head above smooth or transversely striate, not distinctly punctate; middle lobe of mesonotum anteriorly usually with a pair of longitudinal impressions; body partly pale in color. 3.
2. Face, including clypeus as wide as high; wings and hind tibial spurs black
C. latifrons sp. nov.
Face, including clypeus much longer than broad; wings hyaline, with

- infuscated apex; hind tibial spurs white in the male, partly white in the female *C. angustifrons* sp. nov.
3. Head between ocelli and eyes, and upper part of antennal basin transversely striated; mesonotum and scutellum distinctly punctate, stigma yellow on basal half *C. striatus* sp. nov.
Head and antennal basin above smooth, not or very indistinctly striate 4.
4. Clypeus much broader than high; face broader, its height including clypeus not more than its width 5.
Clypeus narrow, very strongly arched above, as high or higher than wide; face, including clypeus higher than broad *C. testaceipes* Cam.
5. Thorax black, at most the propleurae fulvous; wings hyaline at base, infuscated apically 8.
Thorax yellow or fulvous, more or less maculate with black; wings variable. 6.
6. Wings dark fuscous throughout; grooves on median and lateral lobes of mesonotum obsolete *C. nitidus* sp. nov.
Wings paler at base; mesonotal grooves distinct 7.
7. Second section of radius not quite twice as long as the first section or the second transverse cubitus, the second cubital cell therefore short
C. fossatus sp. nov.
Second section of radius nearly three times as long as the first section or the second transverse cubitus, second cubital cell therefore long
C. longipennis sp. nov.
8. Head and thorax entirely black; abdomen entirely yellow; wing veins normal *C. tegularis* sp. nov.
Head, thorax and abdomen each partly yellow and partly black, wing veins unusually heavy and thick *C. fulviventris* Cameron.

CARDIOCHILES LATIFRONS, sp. nov.

♂. Length 5.5 mm. Black, including antennae, coxae, trochanters and mouthparts, except tips of palpi; extreme base of femora darkened; hind tibiae black, except at the knees, and hind tarsi black, except the base of the first joint; remainder of legs fulvous yellow, and a spot on the mesonotum near each tegula obscure rufous; wings uniformly dark fuscous, with a hyaline dot at the insertion of the recurrent nervure, above the base of the nervellus, and along the second transverse cubitus and thickened basal part of the third section of the radius. Head finely and sparsely punctate, slightly rugose behind on the sides, with some weak transverse striae across the front above the antennal impression and a crenate line along the posterior margin of the ocellar space. Head at temples as broad as at eyes, barely twice as broad as thick. Face highly polished, distinctly and sharply raised along the median line; clypeus weakly transversely convex, less than half as high as broad; face, including the clypeus, fully as broad as high, the latter indistinctly bidentate

medially at apex; malar space half as long as the width of the mandible at base, with a fine, but distinct furrow. Antennae strongly tapered toward apex, all joints of the flagellum a little longer than wide, more nearly quadrate near the middle of the flagellum. Mesonotum very sparsely and minutely punctate, evenly and not strongly convex, the parapsidal furrows crenate, clear-cut, but not very deep; middle lobe without any median impressions. Disc of scutellum shining, with a few small punctures; the depressed sides irregularly longitudinally striate. Propodeum with the usual areas, rugose-reticulate between the carinae. Propleura smooth around the edges, the central depression coarsely rugose-punctate; mesopleura with the upper, posterior and oblique discal grooves transversely ribbed; meta-pleura with a vertical, crenate furrow separating an anterior smooth space and a posterior reticulate one. Middle lobe of first abdominal segment more convex than is usual. Second section of radial vein more than twice as long as the first, as long as the first transverse cubitus and one-half longer than the second; cubitus originating at the upper third of the basal vein, recurrent nervure received its own length before the apex of the first cubital cell: first discoidal cell narrowed apically, but more than half as high at apex as at base, the nervulus entering the basal third of the cell. Longer spur of hind tibia half as long as the first tarsal joint.

Type from Kimberley (J. H. Power), May 8, 1912.

CARDIOCHILES ANGUSTIFRONS, sp. nov.

♂. Black, the anterior and middle tarsi pale yellowish; front tibiae brown, pale at base; middle and hind ones pale at extreme base; tibial spurs white; wings hyaline at base, weakly infuscated on apical third; stigma piceous, veins dark brown; body conspicuously white pubescent. Head rather finely and sparsely punctate, the face smooth centrally, obsolete rugose-punctate on the sides. Head fully twice as wide as thick, slightly wider on the temples than at the eyes; front without striae above the antennal impression, with a few short, transverse striae behind the space between the posterior ocelli. Face narrow; including the clypeus, distinctly higher than broad, with an oval raised area on the disc, but without any median raised line; clypeus less than twice as wide as high, its upper margin strongly arcuate, apical margin distinctly bidentate at the center; malar space half as long as the basal width of the mandible, with a deeply impressed linear furrow. First joint of antennal flagellum twice as long as thick, second slightly shorter, the following growing shorter, but considerably longer than thick. Mesonotum rather

densely and coarsely punctate, the parapsidal furrows crenate, clearly impressed; middle lobe without any grooves medially. Disc of scutellum coarsely and closely punctate, the depressed sides reticulate; basal furrow deep, deeply crenate. Carinae of propodeum strong, the areas reticulate, clothed with very long dense hair. Propleurae smooth above, striate anteriorly and rugose-reticulate elsewhere. Mesopleura reticulate above, smooth below, except for the crenate oblique furrow and a reticulate area above the coxa; posterior margin with a row of large foveae, connected at the middle with the oblique furrow by a smooth linear impression. Metapleura reticulate, with an oblique smooth area below the root of the hind wing. Longer spur of hind tibia two-thirds as long as the first tarsal joint. Median portion of first abdominal segment highly convex, the lateral depressed portion with an impressed longitudinal line. Second section of the radius more than twice as long as the first, distinctly longer than the first transverse cubitus and fully twice as long as the second; recurrent nervure received more than its own length before the apex of the first cubital cell; cubitus straight at base, originating at the upper third of the basal vein; first discoidal cell much narrowed apically, the apex scarcely half as high as the base, nervulus originating at basal third of the cell; submedian cell in hind wing distinctly less than half as long as the median.

Type from Stella Bush Durban, Natal (Marley), April, 1915.

A female sent later from Clairmont Natal (Marley), February, 1915, is like the male, except that the shorter spur of the hind tibia is black, and the longer one is black at the base.

CARDIOCHILES STRIATUS, sp. nov.

♂. Length 6 mm. Fulvo-ferruginous; head below antennae yellow, the abdomen more or less darkened along the median line; antennae, ocellar area and hind tarsi black; tibial spurs fulvous. Wings brownish yellow basally and rather strongly infuscated apically; basal half of stigma orange yellow, apex black; veins light fuscous. Head fully twice as wide as thick, not so broad on the temples as at the eyes; sparsely punctate behind the eye; upper part of antennal impression and entire vertex, except a semicircular smooth space around the posterior half of the ocellar area, finely transversely striate, the striae extending down behind the upper part of the eyes. Face longer than wide with a slight rounded median elevation, faintly punctate; clypeus flat, nearly twice as broad as high, with upper margin strongly arcuate, the anterior not distinctly toothed at the center; malar space a little longer than the

width of the mandible at base, with a distinct linear furrow. Antennae stout; first flagellar joint about twice as long as thick, second distinctly shorter, joints near middle, but little longer than thick. Mesonotum rather densely, but not deeply punctate, the parapsidal furrows deep, but very slightly crenulate; middle lobe anteriorly with a pair of approximate shallow furrows enclosing a longitudinal, slightly elevated ridge. Disc of scutellum sparsely punctate, the depressed sides weakly reticulate. Propodeal carinae strong, the areas reticulated between the carinae. Middle lobe of first abdominal segment sharply triangular, the flattened lateral area with a broad shallow longitudinal groove. Propleura striate below, rugose-reticulate above, with a narrow smooth space along the anterior margin above. Mesopleura very irregularly rugose or reticulate, punctate near the upper anterior angle and with a smooth space near the middle behind; hind margin with a series of rather large foveae. Metapleura finely reticulate, the anterior part not entirely smooth. Longer spur of hind tibia two-thirds as long as the metatarsus. Second section of radial vein more than twice as long as the first, one-half longer than the very oblique second transverse cubitus and a little longer than the first which is strongly bent below, the second cubital cell distinctly narrowed apically; base of cubitus straight, arising just above the upper third of the basal vein; apex of first discoidal cell more than half as high as its base; nervulus entering the cell at its basal fourth; recurrent nervure received more than its own length before the apex of the first cubital cell; submedian cell of hind wing less than half as long as the median.

Type from Transvaal: paratype from Fraserburg Road, Cape Province, S. H. Haughton, May 18, 1915.

CARDIOCHILES NITIDUS, sp. nov.

♀. Length 7 mm. Pale yellowish fulvous, marked with black as follows: antennae; head above antennae, extending to occiput and nearly to eyes on the sides; middle and each lateral lobe of mesonotum except the complete margin of each; large spot on mesopleura behind, almost confluent with a smaller one on the metapleura; under surface of thorax; a basal band, narrowed medially, on propodeum; small spot on first abdominal segment; fore coxae and trochanters and base of four posterior coxae; sheaths of ovipositor: hind tibiae and tarsi lost. Wings deeply infuscated, except for the usual pale specks; stigma black, veins piceous, the basal and cubitus lighter brown. An unusually stout species and very shining,

with but little pubescence. Head twice as broad as thick, the temples deep but the head not so broad there as at the eyes, the occiput broadly excavated; head entirely smooth and shining except for some faint punctulation behind the eyes. Ocellar area raised, margined laterally and behind by a shallow, broad depression; face slightly raised along the median line; including the clypeus, as broad as high; clypeus more than twice as broad as high, upper margin not very strongly curved, anterior margin faintly notched at middle, but not bidentate; malar space as long as the basal width of the mandible, with a fine furrow. Antennae stout; scape short, nearly as thick as long; first flagellar joint twice as long as thick, following gradually shorter. Mesonotum smooth and polished; parapsidal furrows deeply impressed and finely crenulate at the bottom; median lobe nearly flat, except at sides, with a pair of widely separated, almost obsolete broad longitudinal impressions; lateral lobes strongly convex. Scutellum broad, convex, smooth; depressed lateral portions smooth with a crenate line along their margins; basal groove coarsely fluted. Propodeum with the carinae strong, the surface of the areas coarsely confluent punctate and shining. Middle lobe of first abdominal segment strongly convex behind, the lateral space without distinct longitudinal groove. Propleura smooth, the depressed central part with shallow reticulations. Mesopleura smooth, except for a confluent punctate band along the anterior edge, a transverse one near the top and a curved one below, connected with the anterior one; hind margin crenulate; the upper oblique and posterior impressions well marked. Metapleura reticulate behind, smooth in front. Second section of radius nearly three times as long as the first, one-third longer than the first transverse cubitus and twice as long as the second transverse cubitus. Cubitus straight at base, arising below the upper third of the basal vein; apex of first discoidal cell slightly more than half as high as the base, the nervulus entering at the basal fourth of the cell; submedian cell in hind wing nearly half as long as the median.

Type from Ookiep, Namaqualand, September, 1890 (R. M. Lightfoot). Paratype from Cape Town, September, 1913. The hind tarsi of the paratype are black.

CARDIOCHILES FOSSATUS, sp. nov.

♀. Length 6 mm. Light brownish yellow, tinged with fulvous, marked with black as follows; large spot on head above from antennae to upper margin of head, nearly reaching the eyes above; antennae; large central spot on each of the lobes of the mesonotum,

sheaths of ovipositor; posterior tarsi fuscous; apex of abdomen more or less infuscated above. Wings slightly infuscated at base, more strongly so on apical third; stigma black, veins dark brown, the submedian, basal and cubital veins much lighter. Head fully twice as broad as thick, at the temples not so wide as at the eyes; upper edge of antennal impression and sides of front near eyes faintly transversely striate; head behind the eyes faintly punctate; face nearly smooth, as broad as long including the clypeus; the latter twice as broad as high, upper margin not strongly curved; lower margin not distinctly bidentate at middle; malar space as long as the basal width of the mandible, with a linear furrow; first joint of antennal flagellum twice as long as thick, second considerably shorter; following gradually decreasing in length. Mesonotum smooth, the parapsidal furrows deep, but not very coarsely crenulate at the bottom; the paired longitudinal grooves on the middle lobe widely separated, broad and shallow but very evident; lateral lobes each with a single similar longitudinal impression. Scutellum elevated, smooth; basal groove very wide, coarsely striate; depressed sides of scutellum confluent punctate. Propodeum coarsely reticulate between the very strong carinae. Propleura confluent punctate or reticulate, smooth around the edges. Mesopleura punctate, the upper and the oblique groove reticulate; smooth anteriorly near the top and posteriorly at the middle; posterior edge crenulate. Metapleura smooth in front of the oblique crenulate furrow, finely reticulate behind it. First abdominal segment with the median part rather strongly elevated, the lateral space with a shallow longitudinal furrow. Longer spur of posterior tibia two-thirds as long as the first tarsal joint. Second section of radius not quite twice as long as the first which is equal to the second transverse cubitus; first transverse cubitus two-thirds as long as the second section of the radius; cubitus straight at base, arising above the upper third of the basal vein; recurrent nervure received considerably more than its own length before the apex of the first cubital cell, first discoidal cell half as high at tip as at base, the nervulus entering at the basal third of the cell; sub-median cell of hind wing a little less than half as long as the median.

Type from Durban, Natal (W. Haygarth), 1914.

Similar to *C. nitida* sp. nov. in color, but more slender, and less shining and with the wing veins less thickened.

CARDIOCHILES LONGIPENNIS, sp. nov.

♂. Length 7 mm. Pale brownish yellow, marked with black as

follows; antennae, except scape beneath; a large spot on the head above, narrowed in front, reaching from the base of the antennae to the upper corner of the eye and the posterior edge of the vertex medially; mesonotum entirely, except parapsidal grooves and extreme lateral edges; posterior tarsi; abdomen stained with brown toward apex. Wings slightly yellowish at base, infuscated on apical third; basal half of stigma fulvous, apex black; wing veins light yellowish brown. Head less than twice as broad as thick, as wide at the temples as at the eyes; entirely smooth above, sparsely punctate behind the eyes near the posterior margin; face, including clypeus, nearly smooth, fully as wide as high; malar space scarcely as long as the basal width of the mandible, with a linear furrow. Scape and flagellum of antennae very stout; first flagellar joint scarcely twice as long as thick; third shorter and following gradually decreasing in length. Mesonotum shining, the middle lobe sparsely, strongly punctate, its pair of grooves distinct, widely separated; each lateral lobe with a narrow deep, longitudinal furrow; parapsidal furrows deep, faintly crenulate at the bottom. Scutellum smooth, nearly flat, the basal groove smooth medially, slightly ribbed at the sides; depressed lateral portion reticulate. Propodeum with strong carinae, the surface between them finely reticulate anteriorly, but nearly smooth behind. Propleurae in great part smooth, with an oblique band and a branch extending toward the tegula slightly wrinkled. Mesopleura sparsely punctate in front, smooth elsewhere, except for the oblique and upper furrow; posterior margin not distinctly crenulate or foveate. Metapleura reticulate-punctate, including, but more sparsely, the anterior part. Middle part of first abdominal segment convex, no wider than the flat lateral part which is without a longitudinal groove. Longer spur of hind tibia three-fourths as long as the basal tarsal joint. Wings long and narrow; first section of radius one-third as long as the second and barely shorter than the second transverse cubitus which is half as long as the first transverse cubitus, the second cubital cell being long and distinctly narrowed apically. Cubitus straight at base, originating at the upper third of the basal vein; first discoidal cell much narrowed apically, the apex one-half as high as the base; nervulus entering at the basal third of this cell; recurrent nervure received more than its own length before the apex of the first cubital cell; wing veins all stout, but none especially thickened; submedian cell in hind wing only two-fifths as long as the median.

Type from M'fongosi, Zululand (W. E. Jones), December 1914.

The wings of this species are noticeably longer than usual.

CARDIOCHILES TEGULARIS, sp. nov.

♀. Length 5 mm. Head, antennae, entire thorax, except tegulae, all coxae and trochanters, extreme tips of hind tibiae and entire hind tarsi and sheaths of ovipositor, black; palpi, remainder of legs, tegulae and abdomen, fulvous yellow. Wings almost hyaline at base, lightly infuscated on apical third; base of costa fulvous; stigma black, veins fuscous, the median, basal and cubital very much paler. Body and legs pale pubescent throughout. Head thin, considerably more than twice as broad as thick, narrower at the temples than at the eyes; entirely shining and smooth, except for small sparse punctures on the clypeus; ocellar space raised, but without a marginal impression; face slightly raised near the median line, as broad as high, the clypeus strongly arched above, less than twice as broad as high, its lower margin with two obsolete tuberculate teeth at the center; malar space as long as the basal width of the mandible, its furrow faintly impressed. Antennal scape short and stout; first flagellar joint less than twice as long as thick, second and following each a little shorter. Mesonotum smooth and shining, each lobe convex, without any furrows or grooves; parapsidal furrows deep and narrow, crenulate. Scutellum rather convex, its basal groove strongly ribbed; depressed lateral portions smooth, with a crenulate line around the margin. Propodeal carinae less strongly elevated than usual, but all the areas complete, surface reticulate; middle lobe of first abdominal segment narrow, not so broad as the lateral area which is longitudinally depressed along the middle. Propleura smooth above and below, coarsely punctate-reticulate between on the concave portion. Mesopleura smooth and shining, the oblique furrow and an area near the top foveate-punctate. Metapleura finely reticulate, the anterior portion entirely smooth. Longer spur of hind tibia two-thirds as long as the first tarsal joint. Second section of radial vein two and one-half times as long as the first and nearly twice as long as the second transverse cubitus, only about one-third longer than the first transverse cubitus; cubitus arising at the upper third of the basal vein, its first section straight; recurrent nervure received more than its own length before the tip of the first cubital cell; first discoidal cell slightly more than half as high at apex as at base, the nervulus entering near the basal fourth of the cell; submedian cell of hind wing distinctly less than half as long as the median.

Type from Kenya Colony, April 27, 1918.

Easily recognizable among the African species by the black head and thorax with fulvous abdomen, tegulae and legs.

SUBFAMILY HELORIMORPHINAE.

HELORIMORPHA, Schmiedeknecht.

Stictometeorus Cameron, Soc. Entom., Jahrg. 24, p. 9, (1909) Type: *S. rufus* Cam.).

Two of the most interesting species contained in the present collection are members of this genus. After its discovery in Europe, *Helorimorpha* was soon found in North America, and a few years later in South America. In 1909, Cameron described *Stictometeorus* from South Africa, placing it in the *Meteorinae*. After seeing the two African *Helorimorpha*, I feel quite certain that *Stictometeorus* is properly to be regarded as a synonym. The present locality adds definitely another faunal region, for although the African forms might perhaps be considered as representing a distinct genus or subgenus, they are extremely similar to the other species, showing a closer similarity to the Neotropical *H. brasiliensis* Brues, than to the European or either of the North American species. Thus in *H. brasiliensis* and the African species the course of the cubitus forms an unbroken line, while in the others it is angled at the base of the second cubital cell; on the other hand the veins beyond the cells are not indicated in *africana*, are weakly defined in at least one North American species and quite distinct in *brasiliensis*. All six known forms are otherwise very much alike, and differ only in the intensity of sculpture, in color and in minute details of wing venation.

The two African species may be separated as follows: *H. rufa* Cameron is probably a third as the mesonotum is black and the antennae black above at base, as in *H. bicolor* Szép.

1. Antennae honey-yellow, except at tips; third joint as long as the two preceding together; second transverse cubital vein incomplete

H. africana sp. nov.

Antennae black beyond second joint; third joint shorter; second transverse cubitus complete *H. coffeae* sp. nov.

HELORIMORPHA AFRICANA, sp. nov.

♂. Length 4.5 mm. Entirely dull fulvous, the apical three or four joints of antennae black; abdomen ferruginous on apical half; wings hyaline, with a slight yellowish tinge, stigma and venation pale brown. Head more strongly transverse than usual, considerably more than twice as wide as thick, very strongly and broadly emar-

ginate behind; above rather coarsely and confluent punctate; ocelli large, in a small equilateral triangle, the ocellar space more or less blackened; front with a fine raised line, bifurcate above between the bases of the antennae and extending halfway to the ocelli; face very finely reticulated, whitish pubescent and not shining; clypeus finely punctate, shining, although pubescent; malar space half as long as the eye, finely reticulate; head behind rather strongly, separately punctate. Antennae 18-jointed; scape nearly as long as the width of the eye; pedicel two-thirds as long; first flagellar joint twice as long as the pedicel, nearly five times as long as thick; following gradually shorter and moniliform, those near apex almost twice as long as thick. Entire thorax coarsely reticulate or areolate as in the other species, the spaces not showing any definite arrangement. Abdominal petiole long, slender, slightly curved, thickened just beyond the middle, then gradually narrowed to apex which is but little thicker than the base; spiracle placed distinctly, but not far behind the middle; surface of petiole without distinct sculpture. Body of abdomen shining and polished, the second tergite extending to its tip and far down on the sides and apparently enclosing the venter; elongate oval, half as wide as the thorax and a little higher than wide. Legs with the tibiae and tarsi clothed with short whitish hairs. Stigma rather angulate below; radial cell on the costa two-thirds as long as the stigma, the costal vein extending halfway from its tip to the wing-tip; first section of radius twice as long as the second, the two together as long as the width of the stigma; third section twice as long as the width of the stigma and parallel with the outer edge of the stigma; recurrent nervure interstitial with the first transverse cubitus; second section of cubitus half as long as the first; submedian cell longer than the median by almost the length of the recurrent nervure; second discoidal cell open below and at apex; all veins obliterated almost entirely beyond the cells. Submedian cell in hind wing more than half the length of the median.

Type from M'fongosi, Zululand (W. E. Jones), April 1916; paratype from same place, May 1916.

The ventral surface of the abdomen is convex and fully chitinized, a character suggesting *Thaumatotypus* and the other genera recently included in the family *Myersiidae* although this is also true of some male Euphorinae to which *Helorimorpha* is without question closely related and next which it was originally placed by Schmiedeknecht.

HELORIMORPHA COFFEAEE, sp. nov.

♂. Length 4.5 mm. Honey yellow or fulvous, the legs lighter; antennae black beyond the second joint; wings hyaline, stigma and veins dilute piceous, except the basal, first section of cubitus, submedian and anal which are pale yellowish. Head more than twice as broad as thick, closely punctured above, confluent so toward the median line; median frontal line distinct, bifurcate below the ocelli; face and clypeus shining, very faintly punctate, scarcely pubescent; malar space half as long as the eye; head behind weakly separately punctate. Antennae 18-jointed; scape twice as long as thick, as long as the width of the eye; first flagellar joint nearly four times as long as thick; following joints growing shorter and becoming moniliform, those near apex twice as long as thick. Thorax areolate as usual. Abdominal petiole long, slender, curved, thickened well beyond the middle, then narrowed at apex; the spiracle placed noticeably behind the middle; petiole smooth. Body of abdomen as in the preceding species, wing venation as in the preceding species, except that the submedian cell does not exceed the median quite so much and the second transverse cubitus is evenly developed not hyaline in the middle as in *H. africana*.

Two specimens from Kalesto, Kenya Colony (February 1918). The label indicates that they were bred from coffee and that the species is probably a fruit-fly parasite. The cocoons, which are mounted with the specimens, are broadly oval, made of very heavy, dense white silk and appear rather more roomy than might be expected from the slender build of the insect.

SUBFAMILY EUPHORINAE.

PERILITUS, Nees.

Cameron has described one South African species of *Perilitus* and there are two additional ones in the material at hand.

These may be distinguished as follows:

1. Head, thorax, abdomen and legs in part red; third joint of antennae nearly as long as the two following together *ruficollis* Cam.
 Body black, legs piceous; third and fourth joints of antennae of approximately equal length 2.
2. First abdominal segment suddenly widened at the middle, its spiracles prominent; radial cell considerably shorter than the outer side of the cubito discoidal cell *latus* sp. nov.
 First abdominal segment gradually widened, its spiracles not prominent; radial cell as long as the outer side of the cubito-discoidal cell
. *angustus* sp. nov.

PERILITUS LATUS, sp. nov.

♂. Length 4 mm. Black; head just behind the eyes above and on the cheeks rufous; scape of antennae fuscous; tegulae and legs beyond the middle of the femora reddish brown; second segment of abdomen piceous; wings hyaline, stigma fuscous, veins somewhat lighter. Head seen from above twice as broad as long, full just behind the eyes, then suddenly narrowed to the posterior margin; front and vertex shining; ocelli in a low triangle, paired ones further from one another than from the eye; malar space as long as the basal width of the mandible, with a deep furrow. Antennal scape very short, less than half longer than broad; pedicel globular; first flagellar joint as long as the scape and pedicel together, three times as long as thick and no longer than the following joint; those beyond decreasing in length, but not rapidly so till far beyond the middle of the flagellum. Mesonotum convex, polished; parapsidal furrows finely crenulate; middle lobe smooth in front where it bears a median depression, behind rather coarsely reticulate; with a fine median carina; scutellar impression broad and deep, coarsely longitudinally fluted; scutellum strongly convex, shining. Propodeum evenly convex, uniformly closely rugose. Propleura smooth above, irregularly punctate below; mesopleura with a punctate area anteriorly above and a punctate space below; metapleura finely rugose-punctate, more or less smooth above. Abdominal petiole one-third longer than the propodeum, suddenly widened near the spiracles, the post-petiole nearly as wide as long; spiracles forming very distinct, small tubercles; surface longitudinally aciculate, with the base medially and the posterior half of the post-petiole smooth; second segment as long as the petiole. Wings with the stigma less than three times as long as wide, as long as the radial cell which is somewhat shorter than usual; submedian cell longer than the median by about the length of the nervulus.

Type from East London (R. M. Lightfoot), July 1914.

PERILITUS ANGUSTUS, sp. nov.

♂. Length 3 mm. Black, the legs piceous, with the tibiae tinged with rufous; the head brownish yellow below. Head two and one-half times as wide as thick when seen from above; full behind the eyes and narrowed, although not very strongly so, to the posterior margin; head smooth and polished above, clothed, as is the rest of the body with rather conspicuous pale hairs; ocelli in a low triangle, the posterior pair considerably further from the eye than from one

another; malar space as long as the basal width of the mandible, with an indistinctly impressed furrow; antennae as in the preceding species; mesonotum with the median lobe weakly punctate-striate anteriorly, finely reticulate-punctate behind, but with the posterior margin smooth; lateral lobes smooth, with some small obsolete punctures around the sides; parapsidal furrows finely crenulate; no median impression. Basal scutellar impression deep, arcuate, irregularly fluted; scutellum highly convex, shining, Propodeum convex above and on the sides, the posterior slope broadly excavated medially; dorsal portion separated from the sides by a well-marked longitudinal carina outside of which is a second short carina extending upwards from the base of the hind coxa, surface elsewhere finely rugose reticulate. Pro- and mesopleura punctate-rugose, the former smooth above and the latter medially; metapleura sculptured like the propodeum. Abdominal petiole as long as the metathorax, rapidly, but evenly narrowed from just before the middle; spiracles not dentate nor otherwise prominent; basal half smooth, apical half somewhat irregularly longitudinally striate; second segment forming two-thirds of the remainder of the abdomen. Wings with the stigma about three times as long as wide, as long as the radial cell, the latter rather long; submedian cell only slightly longer than the median.

Type from Gt. Winter Hoek, Tulbagh, Cape Province, 3600 ft. (R. M. Lightfoot), April 1916.

SUBFAMILY CHELONINAE.

CHELONELLA CURVIMACULATA, Cameron.

Ann. S. Afric. Mus., vol. 5, p. 34 (1906). (*Chelonus*).

A specimen from Salisbury, Southern Rhodesia (R. W. Tucker), May 1917. The antennae are 16-jointed and the species falls in Szépligeti's genus *Chelonella*.

CHELONUS, Jurine.

A number of South African species have been described, but I am unable satisfactorily to identify the material before me.

ASCOGASTER, Wesmael.

ASCOGASTER BIPUSTULATA, sp. nov.

♂. Length 3.6 mm. Black, with a pair of pale lateral spots at the base of the abdomen; basal third of antennae, mandibles, four

anterior legs, including coxae, posterior trochanters, base of femora and base of tibiae broadly, dull brown; wings hyaline at base, with a cloud on the apical half, strongest below the stigma; veins fuscous, stigma black; body clothed with glistening pale hair, especially noticeable on the face, pleurae and legs. Head finely rugose-reticulate, more minutely so on the face, forming indications of striae on the cheeks; clypeus closely punctate. Antennae 31-jointed; first and second flagellar joints equal, each nearly as long as the scape and three times as long as thick, following growing shorter, those before apex becoming but little longer than wide. Eyes oval, as wide as the malar space which bears no groove; face convex, without distinct median carina above; the head nearly twice as wide as long and distinctly wider than the thorax. Mesonotum reticulate behind, very finely so in front, without parapsidal furrows. Scutellum rugose-punctate, its curved basal furrow composed of elongate, foveate impressions. Propodeum regularly reticulate, the upper posterior angles produced into acute spines. Pleurae and sterna punctate reticulate, more coarsely so posteriorly. Abdomen distinctly reticulate near base, very minutely so apically. Radial cell, on the costa distinctly shorter than the stigma; third section of radial vein fully twice as long as the second and meeting it at but little more than a right angle; first section two-thirds as long as the second and equal to the second transverse cubitus; first section of cubitus sinuate, second curved; recurrent nervure entering the second cubital cell near its base; first discoidal cell not petiolate, broad, but nearly parallel, nervulus entering at the basal third; nervellus arising near the lower corner of the cell; radial cell in hind wing broad at base, evenly narrowed to the tip.

Type from M'fongosi, Zululand (W. E. Jones), Dec. 1916.

This is the first member of the genus to be found in this region.

MINANGA, Cameron.

Ann. S. Afric. Mus., vol. 5, p. 30. (1906).

I have been able to examine the type of *M. serrata*, and find that it is very different from any other Chelonine that I have seen and distinct I believe from any other known genus. The serrations at the apex of the abdomen are small and quite conspicuous, being really due to raised ridges between the reticulate surface of the abdomen. The peculiarities of *Minanga* lie not here, but in the form of the head, thorax and in wing venation which recall in many respects members of the genus *Cardiochiles*. The front is slightly

excavated, the ocelli very large, in a very flat triangle and occupying most of the space between the frontal excavation and the occiput; the clypeus is strongly raised with very large foveae at the sides above. The radial cell extends halfway from the stigma to the tip of the wing, the second section of the radius parallel to the costa, the third weakly bent inward at the base and sinuate at apex; the submedian cell in the hind wing is large and broad, more than half as long as the median.

PACHYCHELONUS, gen. nov.

Rather large for the subfamily. Head very broad and deeply excavated behind; eyes very small, oval, bare; front scarcely impressed above the antennae, antennae with more than 30 joints, tapering, the scape elongate; clypeus produced medially into an acute lobe; Mesonotum with deep, broad parapsidal furrows, widely separated behind; scutellum elevated into an acute tubercle, with a deep, striate furrow at base. Propodeum short, coarsely reticulated, posterior angles acutely produced, the spiracle small, circular. Mesopleura simple, convex. Abdomen short and broad, with three very indistinctly indicated segments; tip simple, rounded, venter concave. Legs stout, hind femora and tibiae swollen apically; tarsal claws pectinate, with three or four long slender teeth within. Wings with the basal vein thickened toward the costa, passing gradually into the parastigma; all cubital and discoidal cells separated; anal cell with a cross-vein, median and anal veins very much broadened basally; anal area broader than usual, with a vein-like thickening along its edge; radial cell of hind wing contracted at the middle.

Type *P. fulviventris* sp. nov.

This most remarkable insect differs from any of the known *Cheiloninae* in one or more of the following particulars; notably the tuberculate scutellum, thickened veins, anal cross vein, thickened edge to anal area in wing, acutely produced clypeus and pectinate tarsal claws.

PACHYCHELONUS FULVIVENTRIS, sp. nov.

♂. Length 8.5 mm. Deep black, the entire abdomen and hind legs, including coxae, fulvous or light honey yellow; wings black, with a hyaline streak below the base of stigma, a less pronounced light spot near the base of the radial cell and a hyaline dot at the middle of the second transverse cubitus. Head considerably widened behind the eyes, the occiput arcuately emarginate; marginal line on

temples and cheeks strong; malar space as long as the width of the eye; face and clypeus irregularly and closely punctate; head behind the eye, and above, with a few minute punctures, shining; face with a short, median raised line below the antennae; ocelli very close together, the front below them with irregular curved striae. Antennal scape fully twice as long as thick; first flagellar joint nearly three times as long as thick, joints beyond growing gradually shorter and more slender, the tips very thin. Mesonotum smooth and shining with a few minute scattered punctures and with a coarsely reticulated area next to the tegula; parapsidal furrows wide and deep, coarsely foveate. Scutellum with a few large punctures, groove at base coarsely striated, the depressed sides with several deep more or less longitudinal grooves separated by raised lines. Reticulations of propodeum very coarse and irregular. Propleurae coarsely and irregularly striate-reticulate. Mesopleura similarly, but more finely sculptured, and with punctures intermixed; smooth below; along the posterior edge with a coarsely transversely striated furrow. Metapleura reticulate, no subspiracular furrow. Abdomen barely as long as the head and thorax, oval, slightly more than twice as long as wide and as broad as the thorax, divided by faint transverse furrows into three segments of which the first and second are of equal length and the third half longer than the other two combined. First segment not much narrowed basally, one-third wider than long, with a weak carina on each side extending from near the anterior angle straight back to the hind margin; surface slightly concave basally between the carinae; finely and somewhat irregularly longitudinally striate, as are the following segments; second segment widest at tip, half as long as wide; third broadly rounded at apex; lateral and apical margins of abdomen bent under and with a distinct rim. Submedian cell longer than the median by half the length of the oblique nervulus; first discoidal cell with a long petiole above, very long and with the sides nearly parallel; radial cell on the costa as long as the narrow, elongate stigma; second section considerably longer than the first; third half longer than the other two together; first transverse cubital vein very oblique, second distinctly longer than the second section of the radius, the second cubital cell with the upper and lower margins parallel; recurrent nervure entering the extreme tip of the first cubital cell; nervellus arising near the lower third of the second discoidal cell; submedian cell in hind wing half as long as the median.

Type from Pemba, Northern Rhodesia. (Father Casset), 1918.

TRIGASTROTHERCA, Cameron.

Ann. S. Afric. Mus., vol. 5, p. 32 (1906).

From the description it is difficult to believe that this insect belongs to the *Cheloninae* in which it is placed. The long radial cell, distinctly segmented abdomen, interstitial nervulus and long ovipositor seem out of place here and quite likely *Trigastrotheca* may be related to the Braconine genera *Odontogaster*, *Caelodontus*, etc.

GASTROTHERCA, Guérin.

This genus does not belong to the *Cheloninae* where it has been placed. It will be found on a previous page in the subfamily *Braconinae*.

SUBFAMILY SIGALPHINAE.

SIGALPHUS, Latreille.

One South African species has already been described by Szépligeti, parasitic on *Dacus oleae* in the Transvaal. A second species is in the present collection.

The two may be distinguished as follows:

1. Legs, almost entirely, and tegulae reddish yellow; front smooth
S. daci Szép.
Legs, except knees, and tegulae black or piceous; front sculptured
S. simplicifrons sp. nov.

SIGALPHUS SIMPLICIFRONS, sp. nov.

♀. Length 3 mm. Black; clypeus and mandibles, except tips, rufoferruginous; tips of all femora and basal third of tibiae yellowish brown. Wings hyaline, the stigma black, veins piceous. Head fully twice as wide as thick; temples somewhat bulging behind the eyes, then rapidly narrowed to the carina, as broad as the eye-width; ocellar space not elevated, bounded by a weakly impressed line; the posterior ocelli separated by an impressed line; occiput smooth, vertex with some small punctures at the side of the ocelli; front punctate at the sides, the antennal cavities rugose except near the outer edge; face confluent punctate, with a patch of short vertical striae just outside the large clypeal foveae; clypeus with a few large punctures. Malar space one-third as long as the eye, with a broad,

very shallow, furrow; eyes elongate-oval; cheeks shining and nearly impunctate. Antennae 21-jointed, scape short and slender, as long as the first flagellar joint which is distinctly shorter than the second; third and succeeding rapidly growing shorter, the apical joints submoniliform. Mesonotum as broad as long, strongly trilobed, the lateral lobes very convex; parapsidal furrows deeply impressed, finely crenulate, meeting just before the scutellum; lateral lobes smooth, middle one weakly punctate except in front. Scutellar furrow very broad and deep, coarsely transversely striated or fluted, bounded at the sides by a carina; scutellum highly convex, smooth. Propodeum rugose or minutely reticulate, upper angles produced into blunt teeth. Propleurae smooth above, indistinctly striate below, the posterior margin with a crenate line, the median furrow also coarsely transversely striate. Mesopleura with a highly convex area extending nearly vertically from below to near the upper edge, next which there is a horizontal elevation below the tegula; between these and also at the lower anterior corner is a punctate space; hind margin with a crenate line before which is a foveate impression near the middle; metapleura reticulate, with a crenate line anteriorly. Hind coxae produced below, but not toothed. Abdomen as long as the thorax, oval, broadest behind, the surface with very shallow, minute reticulation which tends to assume a longitudinal direction; sutures between first, second and third segments faintly indicated at the sides; apex flattened and slightly concave just above the ovipositor. Ovipositor as long as the abdomen, its sheaths sparsely hairy. Radial cell short, no longer than the stigma, strongly curved below, closed, the costal vein extending well beyond it; first discoidal cell sessile above; recurrent nervure entering the cubital cell far before its tip, parallel with the transverse cubitus; cubital vein extending a short distance beyond the cell; submedian cell slightly longer than the median; third discoidal cell open at tip; nervellus very short.

Type from Junction of Crocodile and Marico Rivers, Transvaal (R. W. Tucker) February, 1918.

This seems to be a typical *Sigalphus*, although undoubtedly not congeneric with many of the forms that have been placed in this genus. It differs from *Færsteria nitida* Cameron described from the Transvaal by the absence of longitudinal sculpture on the metanotum and abdomen and by the extension of the cubital vein beyond the cell. With *S. daci* it is evidently closely allied.

FAMILY ALYSIIDAE.

IDIASTA, Först.

COELALYSIA, Cam.

COELALYSIA LUSORIAE, (Bridwell).

Proc. Hawaiian Ent. Soc., vol. 4, p. 176. (1919) (*Alysia*).

♀. Length 5.5 mm.; ovipositor as long as the body. Ferruginous, with the apex of the abdomen yellowish; flagellum of antennae piceous, with a pale annulus near apex; hind tibiae and tarsi piceous; wings hyaline, stigma and venation piceous. Head twice as wide as thick, broader behind the eyes; the temples as deep as the eyes, rounded behind; occiput very deeply emarginate; vertex with a fine impressed median line from the ocelli to the posterior foramen; ocelli rather large, very close together, separated by only their own diameter; head, except face, smooth and polished. Face elevated medially, depressed on each side with a rugulose-reticulate area, which however, does not reach the eye margin; at the center with a still further elevated tubercle; antennae on short tubercles; clypeus narrow, obtusely pointed at apex, Mandibles rather suddenly expanded at tips, with only three distinct teeth. Eyes small, round; malar space extremely short. Antennae 32-jointed, joints 18-23 light yellow; scape short oval; second flagellar joint one-third longer than the first; third almost as long as the second; following becoming much shorter, those at the annulus scarcely twice as long as thick. Mesonotum shining, not very convex; middle lobe elevated, especially in front; parapsidal furrows deep, crenulate, closer together than usual, behind the middle fusing to form a deep triangular impression with striate edges, just before the scutellum. Scutellum separated at the base by a wide, striated furrow divided by a median carina; its disc quadrangular, narrowed behind. Propodeum very coarsely reticulated posteriorly, but without distinct areolation; base smooth for a space on each side of the middle. Mesopleura below with a broad, horizontal, cross-striated impression and with another in front above, which cuts off the anterior angle; behind, with a small round impression opposite to a similar one on the metapleura. Abdomen rather narrow, sessile. First segment less than twice as long as broad at apex which is half wider than the base; spiracles slightly prominent, just before the middle; its surface finely longitudinally striate on the somewhat raised median lobe; coarsely striate laterally; following segments smooth and polished, the sutures scarcely distin-

guishable, the second, third and fourth segments of about equal length. Legs as usual. Transverse median vein entering the first discoidal cell at its basal fourth; parallel vein almost interstitial; recurrent nervure entering the second cubital cell near its base; stigma nearly four times as long as wide, emitting the radial vein at its apical third; second section of radius three times as long as the first and less than half as long as the third, about as long as the first transverse cubitus and one half longer than the second; submedian cell in hind wing two-fifths as long as the median.

I had already described this species in manuscript from two specimens, one labelled "bred from *Musca lusoria* Wied., Cape Town." and another from Cape Town, 1915, (Péringuey), when I received Bridwell's paper. The species resembles somewhat *Alysia goniarcha* Cameron, from the Belgian Congo.

Bridwell reared it from the same host near Cape Town.

HERATREMIS, Walker.

HERATREMIS LONGICORNIS, sp. nov.

♀. Length 4.2 mm.; antennae 8 mm.; hind leg 6 mm. Black, prothorax in front, sides of mesonotum, parapsidal furrows, tegulae and mandibles honey yellow or brownish; legs, including coxae testaceous; all tarsi black; hind tibiae and tips of four posterior femora piceous; antennae brownish yellow to near middle, black beyond, with a subapical white annulus; wings hyaline, stigma and venation fuscous. Head somewhat wider than the thorax, twice as broad as thick; ocelli large, close together on a tubercle; occiput deeply excavated medially; vertex and front smooth and polished; each antenna on a slight projection which is bordered above by a crenate line; face convex, deeply punctate with a slight median ridge above; one-half wider than high; clypeus deeply punctate, sharply separated from the face; nearly as long as broad. Eyes nearly round; malar space extremely short. Mandibles much expanded toward tips, with four teeth. Head behind immargined. Antennae with more than 41 joints (tips broken); joints 28-33 white; scape rather long, obovate; joints one and two of flagellum each about as long as the eye-height, the second a trifle longer than the first; following gradually decreasing in length, but all more than twice as long as thick. Mesonotum smooth, with deep parapsidal furrows which curve toward one another behind and meet before the scutellum; middle lobe strongly elevated. Scutellum with a large depression at base bearing a median carina; its disc convex, no longer, and much narrower

than the basal depression; postscutellum forming a transverse band with a deeply striate or crenulate groove. Propodeum declivous behind, incompletely areolated; with a median carina on basal half, furcate behind and extending to form the slightly dentate propodeal angles, and forming the anterior angle of an elongate pentagonal superomedian area that extends nearly to the tip of the propodeum; a complete large postero-lateral area and an anterior one, open in front; subspiracular sulcus broad. Abdomen petiolate; petiole three times as long as broad at apex; slightly contracted from base to the spiracles which are near basal third and inconspicuous, then gradually expanded to tip; its upper surface closely longitudinally striated; remainder of abdomen elongate-ovate, second segment as long as the first, twice as broad at apex as at base and one half longer than wide at tip; its surface shining, but roughly wrinkled or reticulate; third and fourth segments each about half as long as the second, smooth. Venter pale brown, ovipositor nearly as long as the abdomen. Legs, including hind coxae, excessively long and slender; hind femora extending beyond the apex of abdomen, gradually clavate toward tips, their tibiae one half longer than the femora and very slender, their tarsi nearly as long as the tibiae; claws slender, simple. Mesopleura smooth, with a reticulate impression separating the pectus and extending narrowly upwards near the anterior margin halfway to the tegula; also with two small deep impressions near the hind margin, one near the root of the hind wing and the other midway between it and the hind coxae; metapleura with a similar impression just behind the lower mesopleural one. Wings with the stigma elongate, as broad as the tip of the second cubital cell, emitting the radius before its apical third; first section of the latter very short, not equalling the width of the stigma; second section four times as long as the first; third nearly twice as long as the other two together; transverse median vein received at the basal third of the first discoidal cell, the latter with a short petiole above; recurrent nervure little shorter than the basal vein, interstitial with the first transverse cubitus; second cubital cell slightly narrowed apically, the second transverse cubitus half as long as the second section of the radius; parallel vein nearly interstitial; submedian cell in hind wing one-third as long as the median.

Type from M'fongosi, Zululand (W. E. Jones), April 1916.

This insect has the longest antennae and legs of any parasitic Hymenopteron that I have ever seen, and it is in great part on these peculiarities that I have referred it to Walker's genus *Heratremis* known by the type species from Ceylon. Owing to its imperfect

characterization no attempts have been made to locate it and the present species may of course be a quite different insect, for many *Alysiidae* have the antennae very much elongated.

FAMILY PLUMARIIDAE = (KONOWIELLIDAE).

This family was characterized in 1914 by Bischoff to include a genus of South American Hymenoptera of doubtful affinities. Bischoff described the type *Konowiella andrei* as a new genus and new species. At about the same time I received some peculiar Hymenoptera from Argentina and Peru which I was unable to associate with any known genus, until Mr. S. A. Rohwer called my attention to the genus *Plumarius* of Philippi described in 1873 (*Stettiner Ent. Zeit.*, vol. 34, p. 299) as an Evaniid. An examination of Philippi's description and figure at once revealed the fact that my insects were closely related, although quite probably generically distinct. They are also very evidently to be placed close to *Konowiella*, although I cannot be sure whether one or several genera should be recognized in *Plumarius*, *Konowiella* and my own series. On account of the form of the radial cell Szépligeti (*Gen. Insectorum*, fasc. 22, p. 118 (1904)) has been misled concerning *Plumarius* which he places in the subfamily *Agathidinae* of the *Braconidae*, and regards as probably identical with *Neoneurus* Haliday. Since then Morley, (*Ent. Monthly Mag.*, vol. 25, p. 93 (1914)) has shown that *Neoneurus* is identical with *Elasmosoma* Ruthe, an anomalous Braconid usually classed as one of the *Microgastrinae*. There can be no doubt that *Plumarius*, *Konowiella* and its allies have no close affinities with *Elasmosoma* (at least the American species probably belonging to *Elasmosoma*) or with any other *Braconidae* and it appears that the family *Plumariidae* is a valid one, probably most closely related, as Prof. J. C. Bradley has suggested to me, to the *Thynnidae*. In a later number of the *Entomologische Rundschau* for the same year (unfortunately not received till after the war) Bischoff described the genus *Myrmecopterina*, related to *Plumarius*, from South Africa. Still later, Enderlein proposed the generic name *Archihymen* and the family *Archihymenidae* for the African insect, and this must fall into the synonymy.

With this in mind, I was greatly surprised to find in the present material an undoubted Plumariid from South Africa. This appears to be distinct from the South American forms, and to be identical with *Myrmecopterina*.

MYRMECOPTERINA, Bischoff.

Entom. Rundschau, Jahrg. 31, no. 12, p. 67 (1914).

Enderlein, Fauna Südwest-Afrika, p. 195 (1918). *Archihymen*.

Head not very strongly transverse: including the eyes, twice or less than twice as broad as thick; ocelli large or moderate; eyes not very strongly projecting, oval, extending almost to the base of the mandibles; clypeus short and broad; head not striate nor punctate; antennae inserted not far above the clypeus, 13-jointed, pedicel and flagellum clothed with short, stiff white hairs, about as long as the thickness of the antennal joints. Mesonotum with weakly impressed, fine parapsidal furrows and faintly trilobed in front; at the sides with a fine grooved line extending forward from carinae at the sides of the basal scutellar groove, and fading out anteriorly; scutellum moderately convex, without carinae or grooves laterally, except at extreme base where the broad basal groove is limited at each side by a carina. Propodeum gently declivous behind, not areolate, as long as the mesonotum. Abdomen elongate oval, sessile, with six visible, nearly equal segments, terminated at tip by a short horizontal thin plate with rounded apex; claspers elongate triangular, not conspicuous, as long as the dorsal plate. Wings with the second cubital cell very much reduced in size; first discoidal cell almost as high as long; hind wing with three closed basal cells. Legs slender; tibial spurs rather weak.

Type *M. filicornis* Bisch.

This genus differs most strikingly from the South American members of the family in the form of the head, less prominent, longer eyes, shorter antennal vestiture and small second cubital cell.

The two species may be separated as follows.

Ocelli larger, separated from the eye by their own diameter; second cubital cell larger, half as long as the height of the first cubital cell; upper section of basal vein one-third as long as the lower. . . . *filicornis*, Bischoff.

Ocelli smaller, separated from the eye by twice their own diameter; second cubital cell smaller, one third as long as the height of the first cubital cell; upper section of basal vein one half as long as the lower

minor, sp. nov.

MYRMECOPTERINA FILICORNIS, Bischoff.

Entom. Rundschau, Jahrb. 31, p. 68, 1914.

Enderlein, Fauna Südwest-Afrikas p. 195 (1918) (*Archihymen*).

♂. Length 4 mm. Black, varied with piceous and brownish yellow. Head pro- and mesothorax, including pleura, black; antennae at base,

thorax at sides of scutellum and more or less of propodeum, piceous; abdomen black, with piceous apices to the basal segments and with apex dull fuscous; legs beyond the base of coxae, dull yellowish brown, the four anterior femora more or less infuscated; wings hyaline, venation dull yellowish brown, stigma somewhat darker. Head seen from above widest behind the eyes, then very obliquely and sharply narrowed to the margined foramen; its width (exclusive of eyes) distinctly, but not greatly exceeding its length; including the eyes, one-half wider than long; ocelli in an equilateral triangle, the posterior ones distinctly turned toward the side and bounded laterally by a deep groove as long as the ocellus, separated from the eye by their own diameter and from each other by a distance one-half greater; head above and front, smooth and polished; clypeus not sculptured, nearly truncate at apex; malar space practically wanting. First joint of antennae twice as long as thick; second distinctly shorter and nearly three times as long as thick; third to eighth joints subequal, growing more slender, each about as long as the first and second together; following growing shorter and thinner; second and following joints clothed with sparse, stiff, white bristles about as long as the diameter of the joints. Prothorax, including pleurae, dull, alutaceous. Mesonotum and scutellum highly polished, smooth, except for a trace of shagreened sculpture on the outer declivous part of the middle lobe. Parapsidal furrows very finely impressed, but distinctly present, fading out before the scutellum; the latter with a broad, straight impressed groove at base, the surface of the groove minutely roughened. Propodeum smooth, gently convex. First abdominal segment one-half longer than the second, which is slightly shorter than the third; apical plate brown, transparent, sharply rounded at tip. First and second sections of radius about equal, second distinctly longer; section of basal vein above the cubitus but little curved, nearly perpendicular to the subcostal vein; lower part strongly curved, three times as long as the upper; areolet with a short stalk toward the recurrent nervure and a longer one toward the radius, half as long as the apex of the first cubital cell, its lower outer side curved.

Description drawn from a specimen from Jackal's Water, Bushmanland (R. M. Lightfoot), October 1911.

Bischoff's type was from Windhuk, South West Africa.

MYRMECOPTERINA MINOR, sp. nov.

♂. Length 3 mm. Black; base of antennae fusco-piceous; upper part of propleura, spot at sides of scutellum and at extreme sides of base of first segment of abdomen, dark brown; legs dull, dark brown,

the tibiae lighter than the femora. Wings hyaline, venation piceous basally, becoming testaceous on apical half; stigma dilute piceous. Form and sculpture of head as in the previous species, except that viewed from above it is about twice as wide as long when the protuberant eyes are included; ocelli much smaller than in *filicornis*, in a nearly equilateral triangle, the posterior ones removed from the eye by nearly twice their diameter and from one another by nearly three times their diameter. Front with a fine impressed line just below the median ocellus; clypeus broadly arcuate on margin; malar space very short. Antennae as in the previous species. Mesonotum shagreened on the middle lobe anteriorly, with a few shallow punctures intermixed; parapsidal furrows very clearly impressed and extending to the base of the scutellum. Propodeum and abdomen as in the preceding species; apical plate of abdomen transparent, pale yellow. Upper section of basal vein bent into the cubital cell, nearly half as long as the lower section which is curved in an opposite direction; first and second sections of radius about equal, third longer; second cubital cell very small, sub-triangular, with a short stalk at base and a long one, equal to the length of the cell, above toward the radius.

Type from Vryburg, Cape Colony (J. S. Brown), 1917.

Although very similar to *M. filicornis* in color and appearance, this species is undoubtedly distinct. Unfortunately it is represented by only a single specimen.

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FAMILY EVANIIDAE.

AULACUS, Jurine.

Nouv. Meth. Class. Hymén., p. 89 (1807).

thoracicus Westwood Cape Province.
Ann. Mag. Nat. Hist., vol. 7, p. 537 (1841).

ODONTAULACUS, Kieffer.

André, Hymén. Eur. Alg., vol. 7bis, p. 382 (1903).

africanus Brues Ceres Distr. Cape Province.
Ann. South African Mus., vol. 19, p. 2.

GASTERUPTION, Latreille.

Préc. Charac., p. 113 (1796).

bicolor Kieffer South Africa.

Ann. Soc. Ent. France, vol. 80, p. 213 (1911).

caffrarium Schletterer Cape Province.

Verh. zool.-bot. Ges., Wien, vol. 35, p. 288 (1885).

capense Guérin Cape Province.

Iconogr. Règne Anim., vol. 2, Ins., p. 405 (1832).

capicola Kieffer Port. Elizabeth, Cape Province.

Bull. Soc. Hist. Nat. Metz, vol. 3, p. 97 (1911).

claripenne Kieffer Port Elizabeth, Cape Province.

Bull. Soc. Hist. Nat. Metz, vol. 3, p. 98 (1911).

crassiventre Cameron Hex River, Cape Province.

Ann. South African Mus., vol. 5, p. 23 (1906).

Brues, Ann. South African Mus., vol. 19, p. 6.

doederleini Kieffer Port Elizabeth, Cape Province.

Bull. Soc. Hist. Nat. Metz, vol. 3, p. 99 (1911).

dunbrodyense Cameron Dunbrody, Cape Province.

Rec. Albany Mus., Grahamstown, vol. 1, p. 159 (1905).

exsectum Schletterer Cape Province.

Ann. Hofmus. Wien, vol. 4, p. 428 (1889).

flicicauda Kieffer Willowmore, Cape Province.

Bull. Soc. Hist. Nat. Metz, vol. 3, p. 95 (1911).

- flavonotatum* Kieffer Barberton, Transvaal; Willowmore, Cape Province.
Bull. Soc. Hist. Nat., Metz, vol. 3, p. 94 (1911).
Brues, Ann. South African Mus., vol. 19, p. 4.
- fossatum* Brues Zululand.
Ann. South African Mus., vol. 19, p. 6.
- fulvivagina* Kieffer Natal; Caffraria.
Arkiv Zool., vol. 1, p. 555 (1904).
- fuscipenne* Brues. Cape Town.
Ann. South African Mus., vol. 19, p. 4.
- fuscivagina* Kieffer Port Elizabeth, Cape Province.
Bull. Soc. Hist. Nat. Metz, vol. 3, p. 92 (1911).
- glabratum* Schletterer Cape Province.
Ann. Hofmus. Wien, vol. 4, p. 432 (1889).
- glabratum* Schletterer, var. *sjöstedti* Kieffer Cape Province.
Arkiv Zool., vol. 1, p. 553 (1904).
- incisum* Kieffer. Willowmore, Cape Province.
Bull. Soc. Hist. Metz, vol. 3, p. 91 (1911).
- johannis* Cameron Dunbrody, Cape Province.
Ann. South African Mus., vol. 5, p. 24 (1906).
Brues, Ann. South African Mus., vol. 19, p. 3.
- leptocephalum* Cameron South Africa.
Ann. South African Mus., vol. 5, p. 22 (1906).
- liebeli* Kieffer Port Elizabeth, Cape Province.
Bull. Soc. Hist. Nat. Metz, vol. 3, p. 96 (1911).
- lissocephalus* Cameron Cape Province.
Entomologist, vol. 38, p. 227 (1905).
- maculiceps* Cameron Cape Town.
Ann. South African Mus., vol. 5, p. 25 (1906).
- marginatum* Schletterer Port Elizabeth, Cape Province.
Ann. Hofmus. Wien, vol. 4, p. 433 (1889).
- melanotarsus* Kieffer Salisbury, Rhodesia.
Ann. Soc. Entom. France, vol. 80, p. 199 (1911).
- ornatipes* Kieffer. Port Elizabeth, Cape Province.
Bull. Soc. Hist. Nat. Metz, vol. 3, p. 98 (1911).
- peringueyi* Brues Cape Town.
Ann. South African Mus., vol. 19, p. 5.
- pulchripenne* Cameron Hex River, Cape Province.
Ann. South African Mus., vol. 5, p. 23 (1906).
Brues, Ann. South African Mus., vol. , p. 4.
- punctulatum* Schletterer. Port Elizabeth, Cape Province.
Ann. Hofmus. Wien, vol. 4, p. 431 (1889).
- robustum* Kieffer. Salisbury, Rhodesia.
Ann. Soc. Entom. France, vol. 80, p. 201 (1911).
- sanguineum* Kieffer Cape Province.
Arkiv. Zool. vol. 1, p. 553 (1904).
- solmsi* Kieffer Port Elizabeth, Cape Province.
Bull. Soc. Hist. Nat. Metz, vol. 3, p. 100 (1911).
- spilopus* Cameron Cape Town.
Ann. South African Mus., vol. 5, p. 27 (1906).

- taschenbergi* Semenow Cape Province.
 Bull. Acad. St. Petersburg, vol. 3, p. 30 (1892).
tenuicauda Kieffer Willowmore, Cape Province.
 Bull. Soc. Hist. Nat. Metz, vol. 3, p. 96 (1911).

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- Ann. Soc. Entom. France, vol. 79, p. 77 (1910).
cultriger Kieffer Cape Province.
 Arkiv. Zool., vol. 1, p. 552 (1904).
melanothecus Kieffer Durban, Natal.
 Ann. Soc. Entom. France, vol. 80, p. 177 (1910).
pedicellatus Brues Zululand.
 Ann. South African Mus., vol. 19, p. 7.

TRIGONOFENUS, Kieffer.

- Ann. Soc. Entom. France, vol. 80, p. 177 (1910).
xylocopae Kieffer Cape Province.
 Bull. Soc. Entom. France, p. 305 (1911).

EVANIA, Fabricius.

- Syst. Entom., p. 345 (1775).
appendigaster Linné Cosmopolitan.
 Syst. Nat., Ed. 10, vol. 1, p. 556 (1858).
 Cameron. Ann. South African Mus., vol. 5, p. 19, (1906) (*peringueyi*).
 Brues, Ann. South African Mus., vol. 19, p. 8.
bifida Kieffer Transvaal.
 Boll. Lab. Zool. Portici, vol. 4, p. 106 (1910).
broomi Cameron Pearston, Cape Province.
 Trans. South African Philos. Soc., vol. 16, p. 331 (1906).
capensis Schletterer Cape Province.
 Verh. zool.-bot. Gesellsch. Wien, vol. 36, p. 15 (1886).
crisatifrons Kieffer Transvaal.
 Boll. Lab. Zool. Portici, vol. 4, p. 105 (1910).
emarginata Kieffer Willowmore, Cape Province.
 Bull. Soc. Entom. France, p. 303 (1911).
fulvospina Cameron Cape Town, Transvaal, Zululand.
 Ann. South African Mus., vol. 5, p. 21 (1906).
 Brues, Ann. South African Mus., vol. 19, p. 9.
levigena Kieffer Caffraria; Cape Province.
 Arkiv. Zool., vol. 1, p. 547 (1904).
meridionalis Cameron Cape Town.
 Ann. South African Mus., vol. 5, p. 20 (1906).
peringueyi Cameron = *appendigaster* Linné.
rufiscapa Brues Zululand.
 Ann. South African Mus., vol. 19, p. 9.

- schoenlandi* Cameron Teefontein.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 243 (1905).

PROSEVANIA, Kieffer.

- Ann. Soc. Entom. France, vol. 80, p. 157 (1911).
afra Kieffer Zululand; Congo.
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PAREVANIA, Kieffer.

- Berliner Entom. Zeits., vol. 51, p. 270 (1907).
bisulcata Kieffer Algoa Bay.
 Bull. Soc. Entom. France, p. 304 (1911).
punctatissima Kieffer Algoa Bay.
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BRACHYGASTER, Leach.

- Edinburgh Encyl., vol. 9, p. 142 (1830).
bidentata Kieffer Transvaal; Southern Rhodesia.
 Bull. Soc. Entom. France, 1911, p. 304.
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STEPHANISCUS, Kieffer.

- André, Hymén. Eur. Alg., vol. 7bis, p. 478 (1904).
Schlettereriella Szépligeti, Gen. Insect., fasc. 22, p. 54 (1905).
oncophorus Schletterer Cape Province.
 Berliner Ent. Zeit., vol. 33, p. 207 (1889) (*Stenophasmus*).
 Szépligeti, Gen. Insect., fasc. 22, p. 54 (1905) (*Schlettereriella*),
 Schulz, Zool. Ann., vol. 4, p. 65 (1911) (*Psenobolus*).
 Enderlein, Arch. Naturg., Jahrg. 78, Abth. A, Heft 2, p. 3 (1912).

OGMOPHASMUS, Enderlein.

- Arch. Naturg., Jahrg. 78, Abth. A, Heft 2, p. 4, 13 (1912).
Rhopalospathius Cameron, Ann. Soc. Entom. Belgique, vol. 56, p. 71 (1912).
erythrothorax Cameron Zululand.
 Ann. Soc. Entom. Belgique, vol. 56, p. 371 (1912) (*Rhopalospathius*).
 Brues, Ann. South African Mus., vol. 19, p. 11.

SPATHIUS, Nees.

- Nov. Acta, Acad. Nat. Curios., Halle, vol. 9, p. 301 (1818).
laeviceps Brues Eastern Transvaal.
 Ann. South African Mus., vol. 19, p. 13.
striaticeps Brues Zululand.
 Ann. South African Mus., vol. 19, p. 11.

PLATYSPATHIUS, Viereck.

- Proc. U. S. Nat. Mus., vol. 40, p. 185 (1911).
pictipennis Viereck Lourenço Marquez.
 Proc. U. S. Nat. Mus., vol. 40, p. 185 (1911).

SPATHIOHORMIUS, Enderlein.

- Arch. Naturg., Jahrg. 78, Abth. A, Heft 2, p. 19 (1912).
dentatus Brues Zululand.
 Ann. South African Mus., vol. 19, p. 14.

HORMIOPTERUS, Giraud.

- Ann. Soc. Entom. France, sér. 4, vol. 9, p. 478 (1869).
capensis Brues Cape Town.
 Ann. South African Mus., vol. 19, p. 15.

HORMIUS, Nees.

- Hymen. Ichneum. Affin. Mon., vol. 1, p. 153 (1834).
testaceus Cameron Transvaal.
 Ann. Transvaal Mus., 1911, p. 195.

PAMBOLUS, Haliday.

- Ent. Mag., vol. 4, p. 40 (1836).
aciculatus Brues Cape Town.
 Ann. South African Mus., vol. 19, p. 17.

MICROBRACON, Ashmead.

- Bull. Colorado Biol. Assoc., No. 1, p. 15 (1890).
annulicornis Brues Zululand.
 Ann. South African Mus., vol. 19, p. 20.
beneficientor Viereck. (*Habrobracon*) Lourenço Marquez.
 Proc. U. S. Nat. Mus., vol. 40, p. 182 (1911).
celer Szépligeti Stellenbosch.
 Boll. Lab. Zool. Gen. Agrar., Portici, vol. 7, p. 101 (1913).
 Silvestri, *ibid.*, vol. 8, p. 122 (1914) (*Bracon*).
ceres Brues Ceres Distr., Cape Province.
 Ann. South African Mus., vol. 19, p. 31.
curticornis Brues Cape Town.
 Ann. South African Mus., vol. 19, p. 26.
hieroglyphicus Brues Zululand.
 Ann. South African Mus., vol. 19, p. 23.
jonesii Brues Zululand.
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latifasciatus Brues Zululand.
 Ann. South African Mus., vol. 19, p. 22.
latilineatus Cameron Cape Province.
 Arch. Math. Naturvidens., vol. 30, No. 5, p. 3 (1910) (*Bracon*).

- maculiventris* Holmgren. Cape Province.
 Eugen. Resa., Ins., vol. 2, p. 423 (1868) (*Bracon*).
 Roman, Ent. Tidskr., vol. 31, p. 114 (1910).
- monitor* Brues Cape Province.
 Ann. South African Mus., vol. 19, p. 32.
- postfurcalis* Brues Zululand.
 Ann. South African Mus., vol. 19, p. 28.
- praeceptor* Brues Zululand.
 Ann. South African Mus., vol. 19, p. 30.
- propinquus* Cameron Delagos Bay.
 Arch. Math. Naturvidens., vol. 30, No. 5, p. 4 (1910) (*Bracon*).
- sectator* Brues Durban, Natal.
 Ann. South African Mus., vol. 19, p. 33.
- sesamiae* Cameron Cape Province.
 Trans. South African Philos. Soc., vol. 16, p. 334 (1906) (*Bracon*).
- tuckeri* Brues S. W. Africa.
 Ann. South African Mus., vol. 19, p. 29.
- zuluorum* Brues Zululand.
 Ann. South African Mus., vol. 19, p. 25.

BRACONELLA, Szépligeti.

- Ann. Mus. Nat. Hungarici, vol. 4, p. 587 (1906).
- minor* Szépligeti. Tanganyika Territory; S. Rhodesia, Zululand.
 Ann. Mus. Nat. Hungarici, vol. 4, p. 587 (1906).
 Roman, Ent. Tidskr., vol. 31, p. 115 (1910).
 Brues, Ann. South African Mus., vol. 19, p. 19.

BRACON.

The species listed under this name are all of very doubtful position and are included only for the sake of completeness, in the hope that their proper relationships may before long be made out.

- aequitator* wied Cape Province.
 Anal. Ent., p. 8 (1824).
- africanus* Dalla Torre Cape Province.
 Cat. Hymen., vol. 4, p. 257 (1898) Holmgren, Eugen. Resa, Ins., vol. 2,
 p. 424 (1868). (*africanus*, non Brullé).
- bohemanni* Holm. South Africa.
 Eugen. Resa, Ins., vol. 2, p. 423 (1868).
- ? *difficilis* Cameron Cape Province.
 Ann. South African Mus., vol. 5, p. 58 (1906).
- jocosides* Buysson Transvaal.
 Ann. Soc. Ent. France, p. 353 (1897).
- kinsembo* Dalla Torre S. & W. Africa.
 Cat. Hymen., vol. 4, p. 275 (1898).
 Smith, Trans. Ent. Soc. London, p. 531 (1870) non *bellicosus* Smith, 1860.
- ribesiferus* Buysson Transvaal.
 Ann. Soc. Ent. France, p. 353 (1897).

rugosus Brullé South Africa.
Hist. Nat. Ins. Hymen., vol. 4, p. 413 (1846).

EUUROBRACON, Ashmead.

Proc. United States Nat. Mus., vol. 23, p. 140 (1900).
? *mandibularis* Brues Durban, Natal.
Ann. South African Mus., vol. 19, p. 34.

COELODONTUS, Roman.

Zool. Bidrag fran Uppsala, vol. 1, p. 246 (1912).
costator Roman Cape Province.
Zool. Bidrag fran Uppsala, vol. 1, p. 246, Pl. VI, f. 5 (1912).

MEGAGONIA, Szépl.

niger Szépl. Windhoek, S. W. Africa.
Ann. Mus. Nat. Hungar. vol. 11, p. 594 (1913).

IPHIAULAX, Förster.

(Including *Ipobracon*, *Merinotus*, *Campyloneurus*, *Goniobracon*, etc.).

Verh. preuss. Rheinland, vol. 19, p. 243 (1862).
aethiopicus Cameron Cape Province
Rec. Albany Mus., Grahamstown, vol. 1, p. 153 (1905).
Cameron, Ann. South African Mus., vol. 5, p. 41 (1906).
Szépligeti, Ann. Mus. Nat. Hungarici, vol. 4, p. 554 (1906) (*Merinotus striatus*).
Roman, Ent. Tidskr., vol. 31, p. 112 (1910) (*Merinotus striatus*).
Brues, Ann. South African Mus. vol. 19, p. 61.
(This species is considered as a synonym of *melanosoma* Brullé by Roman).
annulitarsis Cameron Delagoa Bay; East Africa.
Arch. Math. Naturvidens., vol. 30, No. 10, p. 8 (1909).
Szépligeti, Mitt. Zool. Mus., Berlin, vol. 7, p. 79 (1914).
apicalis Szépligeti Erythraea; Cape Province.
Ann. Mus. Nat. Hungarici, vol. 11, p. 595 (1913).
Szépligeti, Mitt. Zool. Mus., Berlin, vol. 7, p. 178 (1914).
appelatrix Cameron Cape Province.
Arch. Math. Naturvidens., vol. 30, No. 10, p. 13 (1909).
areolatus Szépligeti East Africa, from Abyssinia to Delagoa Bay.
Ann. Mus. Nat. Hungarici, vol. 11, p. 593 (1913).
Szépligeti, Mitt. Zool. Mus., Berlin, vol. 7, p. 167 (1914) (*Goniobracon*).
aurora Brues Transvaal.
Ann. South African Mus., vol. 19, p. 48.
basimacula Cameron = *nataliensis*.
basiornatus Cameron Cape Province.
Arch. Math. Naturvidens., vol. 30, No. 10, p. 17 (1919).
bellona Brues Transvaal; Natal.
Ann. South African Mus., vol. 19, p. 52.

- bicolor* Brullé Southern Africa.
 Hist. Nat. Ins. Hymén., vol. 4, p. 412, pl. 43, fig. 3 (1846) (*Bracon*).
 Cameron, Rec. Albany Mus., vol. 1, p. 155 (1905).
 Cameron, Arch. Math. Naturvidens., vol. 30, No. 10, p. 14 (1909). (*strenuus*).
 Brues, Ann. South African Mus., vol. 19, p. 61.
- bicostatus* Szépligeti Transvaal; Zululand; Southern Cape Province.
 Ann. Mus. Nat. Hungarici, vol. 4, p. 554 (1906) (*Merinotus*).
 Szépligeti, Mitt. Zool. Mus. Berlin, vol. 7, p. 164 (1914).
 Brues, Ann. South African Mus., vol. 19, p. 63.
- capensis* Cameron Senegal and S. Rhodesia to Cape.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 149 (1905).
 Szépligeti, Mitt. Zool. Mus. Berlin, vol. 7, p. 164 (1914) (*Merinotus*).
 Brues, Ann. South African Mus., vol. 19, p. 63.
- clanes* Cameron Dunbrody, Cape Province.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 151 (1905).
- coccineomaculatus* Cameron = *plurimacula* Brullé.
- eoccineus* Brullé Equatorial to South Africa.
 Hist. Nat. Ins. Hymén., vol. 4, p. 428 (1846) (*Bracon*).
 Cameron, Ann. South African Mus., vol. 5, p. 49 & 52 (1905).
 Cameron, Arch. Math. Naturvidens., vol. 30, No. 10, p. 19 (1909).
 Cameron, Ann. Soc. Entom. Belgique, vol. 56, p. 364 (1912).
 Szépligeti, Entom. Mitt., vol. 2, p. 384 (1913).
 Szépligeti, Mitt. Zool. Mus. Berlin, vol. 7, p. 178 & 182 (1914).
 Brues, Ann. South African Mus., vol. 19, p. 64 (1923).
- corallinus* Ritsema. = *fastidiator* Fabricius.
- decorus* Cameron Worcester Dist, Cape Province; Zululand.
 Ann. South African Mus., vol. 5, p. 50 (1906).
 Brues, Ann. South African Mus., vol. 19, p. 62.
- delagoensis* Cameron Delagoa Bay.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 16 (1909).
- diana* Brues Southern Rhodesia.
 Ann. South African Mus., vol. 19, p. 49.
- dodsi* Cameron Southern Rhodesia; Portuguese East Africa;
 Eastern Cape Province.
 Ann. South African Mus., vol. 5, p. 51 (1906).
 Brues, Ann. South African Mus., vol. 19, p. 63.
- 12-fasciatus* Cameron Dunbrody, Cape Province.
 Rec. Albany Mus., vol. 1, p. 154 (1905).
 Cameron, Ann. South African Mus., vol. 5, p. 55 (1906).
 Brues, Ann. South African Mus., vol. 19, p. 63.
- durbanensis* Cameron Natal; Transvaal.
 Ann. South African Mus., vol. 5, p. 43 (1906).
 Cameron, Ann. Transvaal Mus., vol. 2, p. 192 (1911) (*pretoriaensis*).
 Brues, Ann. South African Mus., vol. 19, p. 61.
- excisus* Szépligeti Delagoa Bay.
 Ann. Soc. Entom. Belgique, vol. 58, p. 112 (1914).
- fastidiator* Fabricius North to South Africa.
 Spec. Insect., p. 428 (1781) (*Ichneumon*).

- Fabricius, Syst. Piez., p. 105 (1804) (*Bracon*).
- Ritsema, Tijdschr. v. Entom. vol. 17, p. 179, Pl. 11, fig. 1 (1874) (*Bracon corallinus*).
- Cameron, Ann. Soc. Entom. Belgique, vol. 56, p. 364 (1912) (*Iphiaulax corallinus*).
- Turner, Ann. Mag. Nat. Hist. (8), vol. 20, p. 242 (1917).
- flagrator* Gerstaeker Mozambique; Transvaal; Natal.
 Mon. Akad. Wiss. Berlin, p. 264 (1858).
- Szépligeti, Termes. Fuzetek, vol. 24, p. 395 (1901) (*I. wahlbergi* as a synonym).
- haviLandi* Cameron Cape Province.
 Ann. South African Mus., vol. 5, p. 42 (1906).
 Cameron, Ann. Transvaal Mus., vol. 2, p. 192 (1911).
 Brues, Ann. South African Mus., vol. 19, p. 62.
- haviLandi* Cameron, var. *rosa* Cameron . . . Cape Province; Zululand; Delagoa Bay.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 12 (1909). (*Iphiaulax rosa*).
 Szépligeti, Mitt. Zool. Mus., Berlin, vol. 7, p. 164 (1914).
 Brues, Ann. South African Mus., vol. 19, p. 62.
- hemixanthopterus* Szépligeti Central & South Africa.
 Ergebn. Z. Afrika Exp., vol. 3, p. 404 (1911).
 Szépligeti, Mitt. Zool. Mus., Berlin, vol. 7, p. 177 (1914).
- hesper* Brues Natal.
 Ann. South African Mus., vol. 19, p. 45.
- hirticeps* Cameron Cape Province.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 12 (1909).
 Brues, Ann. South African Mus., vol. 19, p.
- inanius* Cameron Delagoa Bay.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 16 (1909).
- incisus* Brullé Rhodesia to Cape.
 Hist. Nat. Ins. Hymén., vol. 4, p. 427 (*Bracon*).
 Cameron, Ann. South African Mus., vol. 5, p. 47 (1906).
 Brues, Ann. South African Mus., vol. 19, p. 64.
- iphigenia* Brues Transvaal.
 Ann. South African Mus., vol. 19, p. 55.
- iris* Brues Zululand.
 Ann. South African Mus., vol. 19, p. 47.
- juno* Brues Warm Baths, Transvaal.
 Ann. South African Mus., vol. 19, p. 53.
- krebsii* Cameron Cape Province.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 18 (1909).
 Brues, Ann. South African Mus., vol. 19, p. 63.
- lanceolatus* Szépligeti Cape Province.
 Mitt. Zool. Mus., Berlin, vol. 7, p. 178 (1914).
- lativentris* Cameron Transvaal; Zululand.
 Ann. South African Mus., vol. 5, p. 51 (1906).
 Brues, Ann. South African Mus., vol. 19, p. 63.
- leucogaster* Cameron Delagoa Bay.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 8 (1909).
- levissimus* Cameron = *rubiginator*.

- litura* Brulle South Africa.
 Hist. Nat. Ins. Hymen., vol. 4, p. 415 (1846) (*Bracon*).
- longicoxis* Cameron Natal; S. W. Africa.
 Ann. South African Mus., vol. 5, p. 42 (1906).
- lucina* Brues Southern Rhodesia.
 Ann. South African Mus., vol. 19, p. 54.
- luctuosus* Brullé = *phryganator*.
- lugens* Brulle Zululand and Natal to Cape.
 Hist. Nat. Ins. Hymen., vol. 4, p. 414 (1846). (*Bracon*).
 Cameron, Arch. Math. Naturvidens., vol. 30, No. 10, p. 4 (1909).
 Brues, Ann. South African Mus., vol. 19, p. 61.
- maculifrons* Ritsema South Africa.
 Tidschr. v. Entom., vol. 17, p. 177 (1874). (*Bracon*).
 Brues, Ann. South African Mus., vol. 19, p. 63.
- martinii* Gribodo Central and South Africa.
 Ann. Mus. Civ. Genova, vol. 14, p. 246 (1879). (*Bracon*).
 Cameron, Ann. South African Mus., vol. 5, p. 57 (1906) (*robustus*).
 Cameron, Arch. Math. Naturvidens., vol. 30, No. 10, p. 26 (1909) (*Gonio-
 bracon robustus*).
 Szépligeti, Kilimandjaro-Meru Exped., p. 32 (1910) (*robustus*).
 Schulz, Zool. Ann., vol. 4, p. 71 (1911).
 Brues, Ann. South African Mus., vol. 19, p. 61.
- mediator* Cameron Transvaal.
 Ann. South African Mus., vol. 5, p. 46 (1906).
- melanosoma* Brulle, see *aethiopicus* Cameron.
- meridionalis* Cameron Worcester Distr., Cape Province.
 Ann. South African Mus., vol. 5, p. 45 (1906).
- mimeticus* Cameron Transvaal.
 Ann. South African Mus., vol. 5, p. 58 (1906).
- minerva* Brues S. Rhodesia.
 Ann. South African Mus., vol. 19, p. 50.
- minyias* Brues Zululand.
 Ann. South African Mus., vol. 19, p. 43.
- monteiroae* Cameron Delagoa Bay.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 16 (1909) (*monteiroii*).
- nataliensis* Szépligeti Natal; S. Rhodesia; S. W. Africa.
 Termes. Fuzetek, vol. 24, p. 395 (1901).
 Cameron, Rec. Albany Mus., Grahamstown, vol. 1, p. 150 (1905) (*basimacula*).
 Cameron, Ann. South African Mus., vol. 5, p. 45 (1906) (*basimacula*).
 Szépligeti, Ent. Mitt., vol. 3, p. 384 (1913).
 Brues, Ann. South African Mus., vol. 19, p. 61.
- nigradorsis* Kriechbaumer Central and South Africa.
 Berliner Ent. Zeit., vol. 39, p. 571 (1894).
 Brues, Ann. South African Mus., vol. 19, p. 63.
- odontoscapus* Cameron Dunbrody, Cape Province.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 154 (1905).
- ornaticollis* Cameron Grahamstown, Cape Province.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 252 (1905).

- Cameron, Arch. Math. Naturvidens., vol. 30, No. 10, p. 5 (1909).
- pandora* Brues S. W. Africa; Zululand; S. Rhodesia.
Ann. South African Mus., vol. 19, p. 57.
- pectoralis* Szépligeti Cape Province.
Mitt. Zool. Mus. Berlin, vol. 7, p. 181 (1914).
- phosphor* Brues Zululand.
Ann. South African Mus., vol. 19, p. 42.
- phryganator* Thunberg Central and Southern Africa.
Mem. Akad. St. Petersburg, vol. 8, p. 272 (1822) (*Ichneumon*).
Thunberg, idem, vol. 9, p. 342 (1824) (*Ichneumon*).
Brullé, Hist. Nat. Ins. Hymen., vol. 4, p. 414 (1894) (*Bracon luctuosus*).
Cameron, Arch. Math. Naturvidens., vol. 30, No. 10, p. 5 (1909) (*luctuosus*).
Szépligeti, Kilimandjaro-Meru Exped., p. 31 (1910) (*Ipobracon luctuosus*).
Roman, Zool. Bidrag, vol. 1, p. 272 (1912) (*Ipobracon*).
Szépligeti, Mitt. Zool. Mus. Berlin, vol. 7, p. 175 (1914) (*Ipobracon luctuosus*).
- pictus* Brullé Rhodesia to Cape.
Hist. Nat. Ins. Hymen., vol. 4, p. 426 (*Bracon*).
Cameron, Ann. South African Mus., vol. 5, p. 47, 50 (1906).
Cameron, Ann. Transvaal Mus., vol. 2, p. 192 (1911).
Cameron, Arch. Math. Naturvidens., vol. 30, No. 10, p. 19 (1909).
- plurimaculata* Brullé Central and South Africa.
Hist. Nat. Ins. Hymén., vol. 4, p. 429 (1846) (*Bracon*).
Cameron, Ann. South African Mus., vol. 5, p. 46 (1906) (*coccineomaculatus*).
Turner, Ann. Mag. Nat. Hist. (8), vol. 20, p. 243 (1917).
Brues, Ann. South African Mus., vol. 19, p. 62 (1923).
- pretoriaënsis* Cameron = *durbanensis* Cameron.
- proserpina* Brues Transvaal; S. Rhodesia.
Ann. South African Mus., vol. 19, p. 44.
- resolutus* Cameron Cape Province.
Arch. Math. Naturvidens., vol. 30, No. 10, p. 10 (1909).
- rhadamanthus* Brues Zululand.
Ann. South African Mus., vol. 19, p. 59.
- rhodesianus* Cameron S. Rhodesia.
Ann. South African Mus., vol. 5, p. 54 (1906).
- robustus* Cameron = *martinii*.
- rosa* Cameron = var. of *havilandi*.
- ruber* Bingham Mashonaland.
Trans. Entom. Soc. London, vol. 23, p. 245, Pl. 23, fig. 21 (1902).
Brues, Ann. South African Mus., vol. 19, p. 62.
- rubiginator* Thunberg Cape Province.
Mém. Akad. St. Pétersburg, vol. 8, p. 260 (1822) (*Ichneumon*).
Thunberg, idem, vol. 9, p. 309 (1824) (*Ichneumon*).
Cameron, Ann. South African Mus., vol. 5, p. 44 (1906) (*levissimus*).
Roman, Zool. Bidrag, vol. 1, p. 277 (1912) (*Ipobracon*).
Brues, Ann. South African Mus., vol. 19, p. 61.
- rubilineatus* Cameron Dunbrody, Cape Province.
Rec. Albany Mus., Grahamstown, vol. 1, p. 151 (1905).
Cameron, Arch. Math. Naturvidens., vol. 30, No. 10, p. 15 (1909).

- rubrinervis* Cameron Dunbrody, Cape Province.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 152 (1905).
 Cameron, Ann. South African Mus., vol. 5, p. 50 (1906).
- signatus* Brullé Rhodesia to Cape.
 Hist. Nat. Ins. Hymén., vol. 4, p. 430 (1846) (*Bracon*).
 Cameron, Ann. South African Mus., vol. 5, p. 47 (1906).
 Brues, Ann. South African Mus., vol. 19, p. 62.
- similis* Szépligeti Natal.
 Ent. Mitt., vol. 3, p. 384 (1913) (*Campyloneurus*).
 Brues, Ann. South African Mus., vol. 19, p. 64.
- soleae* Cameron Grahamstown, Cape Province.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 164 (1905).
- spilonotus* Cameron Transvaal; Zululand; Basutoland.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 165 (1905).
 Brues Ann. South African Mus., vol. 19, p. 62.
- spilopus* Cameron Grahamstown, Cape Province.
 Rec. Albany Mus., vol. 1, p. 241 (1905).
- strenuus* Cameron = *bicolor* Brullé.
- striatus* Szépligeti = *aethiopicus* Cameron.
- tacitus* Cameron Delagoa Bay.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 9 (1909).
- tanycerus* Cameron Cape Province.
 Ann. South African Mus., vol. 5, p. 49 (1906).
- tegularis* Szépligeti Southern Cape Province.
 Ann. Mus. Nat. Hungarici, vol. 4, p. 585 (1906).
 Brues, Ann. South African Mus., vol. 19, p. 62.
- thisbe* Brues Seymour, Cape Province.
 Ann. South African Mus., vol. 19, p. 58.
- trichiosomus* Cameron Cape Province.
 Ann. South African Mus., vol. 5, p. 55 (1906).
- trimeni* Cameron = *xanthopterus* Cam.
- varicollis* Cameron Cape Province.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 7 (1909).
- varipalpis* Cameron Transvaal.
 Ann. South African Mus., vol. 5, p. 48 (1906).
 Cameron, Ann. Transvaal Mus., vol. 2, p. 193 (1911).
- varitinctus* Cameron Cape Province.
 Ann. South African Mus., vol. 5, p. 50 (1906).
 Brues, Ann. South African Mus., vol. 19, p. 62.
- vesta* Brues Transvaal.
 Ann. South African Mus., vol. 19, p. 56.
- victorinii* Holmgren = *lugens* Brullé Cape Province.
 Eugen. Resa., vol. 2, p. 426 (1868) (*Bracon*).
 Roman, Ent. Tidskr., vol. 31, p. 115 (1910).
- wahlbergi* Holmgren Central & Southern Africa.
 Eugénias Resa, Ins., p. 425 (1868) (*Bracon*).
 Cameron, Ann. South African Mus., vol. 5, p. 47 (1906).
 Roman, Ent. Tidskr., vol. 31, p. 129 (1910).

- Szépligeti, Ent. Mitt., vol. 3, p. 384 (1913).
whitei Cameron Transvaal; Zululand.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 165 (1905).
 Brues, Ann. South African Mus., vol. 19, p. 62.
xanthocarpus Cameron Southern Cape Province.
 Ann. South African Mus., vol. 5, p. 41 (1906).
xanthopterus Cameron Transvaal; Southern Cape Province; Natal.
 Ann. South African Mus., vol. 5, p. 41 (1906).
 Cameron, Rec. Albany Mus., Grahamstown, vol. 1, p. 240 (1905) (*trimeni*).
 Brues, Ann. South African Mus., vol. 19, p. 61.
xanthostomus Cameron Cape Province; S. Rhodesia.
 Ann. South African Mus., vol. 5, p. 56 (1906).

HOLCOBRACON, Cameron.

- Arch. Math. Naturvidens., vol. 30, No. 10, p. 19 (1909).
erythraspis Cameron S. W. Africa.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 20 (1909).

PLAXOPSIS, Szépligeti.

- Arkiv for Zool., vol. 2, No. 14, p. 1 (1905).
 Roman Ent. Tidskr., vol. 31, p. 136 (1910).
nitidula Brues Durban, Natal.
 Ann. South African Mus., vol. 19, p. 64.

CHAOILTA, Cameron.

- Mem. Manchester Philos. Soc., vol. 43, p. 80 (1899).
amplificata Brues Zululand.
 Ann. South African Mus., vol. 19, p. 66.

PLATYBRACON, Szépligeti.

- Termes. Fuzetek, vol. 23, p. 49 (1900).
 Camerom, Arch. Math. Naturvidens., vol. 30, No. 10, p. 20 (1909). (*Doryctocephalus*).
calviniaae Cameron Western Cape Province.
 Ann. South African Mus., vol. 5, p. 53 (1906) (*Iphiaulax*).
 Brues, Ann. South African Mus., vol. 19, p. 68.
erythrostromus Cameron. = *platynotus* Cameron (1905).
 Brues, Ann. South African Mus., vol. 19, p. 68.
planinotus Brues Cape Province.
 Ann. South African Mus., vol. 19, p. 68.
 Cameron, Arch. Math. Naturvidens., vol. 30, No. 10, p. 21 (1909). (*Doryctocephalus platynotus*) (non *Iphiaulax Platybracon, platynotus* Cameron, 1905),
platynotus Cameron Southern Cape Province.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 241 (1905).
 Cameron, Ann. South African Mus., vol. 5, p. 53 (1906) (*erythrostromus*).
 Brues, Ann. South African Mus., vol. 19, p. 68.

SCHIZTOBRACON, Cameron.

- Ann. South African Mus., vol. 5, p. 70 (1906).
 Roman, Ent. Tidskr., vol. 31, p. 138 (1910) (*Tricoelopyge*).
latilobatus Cameron = *ornatipennis* Cameron.
ornatipennis Cameron S. Rhodesia to Zululand and Cape Province.
 Ann. South African Mus., vol. 5, p. 70 (1906).
 Cameron, Arch. Math. Naturvidens., vol. 30, No. 10, p. 24 (1909) (*latilobatus*).
 Brues, Ann. South African Mus., vol. 19, p. 68.
pulchra Roman Caffraria.
 Ent. Tidskr., vol. 31, p. 139 (1910) (*Tricoelopyge*).

ODONTOGASTER, Szépligeti.

- Ann. Mus. Nat. Hungarici, vol. 4, p. 551 (1906).
 Cameron, Arch. Math. Naturvidens., vol. 30, No. 10, p. 22 (1908) (*Caenoprymnus*).
minor Szépligeti Zululand.
 Brues, Ann. South African Mus., vol. 19, p. 70.
spinosa Cameron Delagoa Bay; Zululand.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 22 (1909) (*Caenoprymnus*).
 Szépligeti, Mitt. Zool. Mus. Berlin, vol. 7, p. 161 (1914).
 Brues, Ann. South African Mus., vol. 19, p. 69.
uniformis Brues Zululand.
 Ann. South African Mus., vol. 19, p. 70.

RHYTIMORPHA, Szépligeti.

- coccinea* Szépligeti Congo; Bushmanland.
 Termes. Füzetek, vol. 24, p. 359 (1901).
 Brues, Ann. South African Mus., vol. 19, p. 71.

CURRIEA, Ashmead.

- Proc. U. S. National Mus., vol. 23, p. 50 (1900).
flavomaculata Cameron Cape Province.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 157 (1905) (*Megalomnum*).
 Cameron, Arch. Math. Naturvidens., vol. 30, No. 10, p. 24 (1909).
 Brues, Ann. South African Mus., vol. 19, p. 71.
striata Cameron Delagoa Bay; Zululand.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 24 (1909).
 Brues, Ann. South African Mus., vol. 19, p. 72.
testacea Cameron Delagoa Bay.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 25 (1909).

BACUMA, Cameron.

- Ann. South African Mus., vol. 5, p. 68 (1906).
 ? *Trachybracon* Szépligeti.
 Ann. Mus. Nat. Hungarici, vol. 4, p. 549 (1906).
fumipennis Cameron Cape Province.
 Ann. South African Mus., vol. 5, p. 69 (1906).

- maculiventris* Cameron S. Rhodesia.
 Ann. South African Mus., vol. 5, p. 68 (1906).
rufa Cameron Kenya Colony; Transvaal, S. W. Africa.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 26 (1909).
 Cameron, Ann. Transvaal Mus., p. 194 (1911).
 Brues, Ann. South African Mus., vol. 19, p. 72.

CHELONOGASTRA, Ashmead.

- Proc. U. S. Nat. Mus., vol. 23, p. 139 (1900).
elongatula Brues. Cape Province.
 Ann. South African Mus., vol. 19, p. 74.
orbiculata Brues Zululand.
 Ann. South African Mus., vol. 19 p. 75.
rotundula Brues. Zululand, Transvaal.
 Ann. South African Mus., vol. 19, p. 73.
 ? *holmgreni* D. T. Cape Province.
 Holmgren, Eugen. Resa, Juc., vol. 2, p. 424 (1868) (*Bracon pectoralis*, nec.
 Wesmael).
 Cat. Hym., vol. 4, p. 272 (1890) (*Bracon*).

GASTROTHECA, Guerin.

- Lefebure, Voy. Abyss., vol. 6, p. 348 (1848).
 Roman, Ent. Tidskr., vol. 31, p. 123 (1910).
 Brues, Ann. South African Mus., vol. 19, p. 76.
areolata Cameron Transvaal.
 Ann. Transvaal Mus., p. 202 (1911).
bilobata Cameron Cape Town.
 Ann. South African Mus., vol. 5, p. 35 (1906)
bivittata Kriechbaumer Delagoa Bay.
 Berliner Ent. Zeit., vol. 39, p. 314 (1894).
capensis Enderlein Pondoland.
 Stettiner Ent. Zeitg., vol. 66, p. 235 (1905).
melanocera Cameron Transvaal.
 Ann. Transvaal Mus., p. 201 (1911).
trimaculata Cameron Cape Province.
 Ann. Transvaal Mus., p. 201 (1911).

GLYPTOMORPHA, Holmgren.

- Eugenies Res. Ins., p. 427 (1868).
apicalis Szepligeti E. Africa; Transvaal.
 Bull. Mus. Hist. Nat., Paris, 1907, p. 34 (1907).
 Roman, Ent. Tidskr., vol. 31, p. 125 (1910).
algirica Lucas Port Elisabeth.
 Expl. Sci, Algérie, Zool., vol. 3, p. 336; pl. 19, fig. 8 (1846).
 Szépligeti, Ann. Mus. Nat. Hungarici, vol. 4, p. 548 (1906).
concolor Szépligeti Delagoa Bay.
 Ann. Soc. Ent. Belgique, vol. 58, p. 109 (1914).
 Roman, Ent. Tidskr., vol. 31, p. 135 (1910).

- ferruginea* Holmgren
 Eugenes Resa, Ins., p. 427, pl. 8, fig. 4 (1868).
tegularis Szépligeti Cape Province.
 Mitt. Zool. Mus. Berlin, vol. 7, p. 156 (1914).

VIPIO, Latreille.

- Hist. Crust. et Ins., vol. 13, p. 176 (1805).
dorsimacula Brullé Cape Province.
 Hist. Nat. Ins. Hymen., vol. 4, p. 445 (1846).
forticarinatus Cameron Cape Province.
 Arch. Math. Naturvidens., vol. 30, No. 10, p. 21 (1902).
fumipennis Cameron Stellenbosch, Cape Province.
 Ann. South African Mus., vol. 5, p. 64 (1906).
 Brues. Ann. South African Mus., vol. 19, p. 77.
longicaudis Cameron Stellenbosch, Cape Province.
 Ann. South African Mus., vol. 5, p. 65 (1906).
longicollis Buysson Transvaal.
 Ann. Soc. Ent. France, p. 353 (1897).
maculiceps Cameron Southern Cape Province.
 Ann. South African Mus., vol. 5, p. 62 (1906).
melanopus Cameron Transvaal.
 Ann. Transvaal Mus., p. 193 (1911).
melanosoma Brullé (see *Iphiaulax melanosoma*) South Africa.
 Hist. Nat. Ins. Hymén., vol. 4, p. 450 (1846).
nataliensis Cameron Natal.
 Ann. South African Mus., vol. 5, p. 63 (1906).
nigripalpis Cameron Cape Town.
 Ann. South African Mus., vol. 5, p. 63 (1906).
nigronotatus Brullé Cape Province.
 Hist. Nat. Ins. Hymén., vol. 4, p. 442 (1846).
 Cameron, Ann. South African Mus., vol. 5, p. 60 (1906).
pallidinervis Cameron Cape Province.
 Ann. South African Mus., vol. 5, p. 61 (1906).
 ? *pallidiventris* Cameron Transvaal.
 Ann. Transvaal Mus., p. 194 (1911).
5-maculatus Cameron W. Cape Province.
 Ann. South African Mus., vol. 5, p. 66 (1906).
6-foveatus Cameron Cape Town.
 Ann. South African Mus., vol. 5, p. 67 (1906).
spilocephalus Cameron Cape Province.
 Ann. South African Mus., vol. 5, p. 66 (1906).
stictonotus Cameron S. Rhodesia.
 Ann. South African Mus., vol. 5, p. 64 (1906).
tinclipennis Cameron Stellenbosch, Cape Province.
 Ann. South African Mus., vol. 5, p. 61 (1906).
transvaalensis Cameron Transvaal.
 Ann. Transvaal Mus., p. 193 (1911).

trimaculatus Cameron W. Cape Province.
Ann. South African Mus., vol. 5, p. 60 (1906).

ODESIA, Cameron.

Ann. South African Mus., vol. 5, p. 79 (1906).
10-maculata Cameron Transvaal.
Zeits. Naturwiss., vol. 81, p. 435 (1909).
longicornis Cameron Transvaal; S. Rhodesia.
Ann. South African Mus., vol. 5, p. 80 (1906).
Brues, Ann. South African Mus., vol. 19, p. 77.

ARCHIBRACON, Saussure.

Grandidier, Hist. Madagascar, vol. 20, Hyménop. pl. 14, fig. 13 (1892).
Pseudobracon Szépligeti. Gen. Ins., fasc. 22, p. 48 (1905).
cameroni Brues Natal, Zululand.
Ann. South African Mus., vol. 19, p. 78.
Cameron, Ann. South African Mus., vol. 5, p. 73 (1906) (*Exotheclus flaviceps*,
non *Archibracon flaviceps* Sauss.).
canaliculatus Cameron = *servillei*.
capensis Cameron Knysna.
Rec. Albany Mus., Grahamstown, vol. 1, p. 167 (1905) (*Exotheclus*).
cognatus Szépligeti Cape Province.
Mitt. Zool. Mus. Berlin, vol. 7, p. 192 (1914) (*Pseudobracon*).
elisabethae Cameron Southern Cape Province.
Ann. South African Mus., vol. 5, p. 72 (1906) (*Exotheclus*).
flavofasciatus Cameron Cape Town.
Ann. South African Mus., vol. 5, p. 74 (1906) (*Exotheclus*).
forticornis Cameron Transvaal.
Ann. South African Mus., vol. 5, p. 74 (1906) (*Exotheclus*).
pulchripennis Cameron Cape Town.
Ann. South African Mus., vol. 5, p. 73 (1906) (*Exotheclus*).
servillei Brullé Equatorial & South Africa.
Hist. Nat. Ins. Hymén., vol. 4, p. 418 (1846) (*Bracon*).
Szépligeti, Gen. Ins., fasc. 22, p. 49 (1905) (*Pseudobracon*).
Cameron, Rec. Albany Mus., Grahamstown, vol. 1, p. 156 (1905) (*Exotheclus*
tibialis).
Cameron, Rec. Albany Mus., vol. 1, p. 167 (1905) (*Exotheclus canaliculatus*).
Cameron, Ann. South African Mus., vol. 5, p. 75 (1906) (*Exotheclus canali-*
culatus).
Cameron, Zeit. Naturwiss., vol. 81, p. 433 (1909) (*Pseudobracon africanus*).
Szépligeti, Mitt. Zool. Mus., Berlin, vol. 7, p. 191 (1914) (*Pseudobracon*
africanus).
Szépligeti, Ann. Ent. Soc. Belgique, vol. 58, p. 114 (1914) (*Pseudobracon*
africanus).
Brues, Ann. South African Mus., vol. 19, p. 77.

- spilopterus* Cameron Southern Cape Province.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 166 (1905) (*Exotheucus*).
tibialis Cameron = *servillei*.

MESOBRACON, Szépligeti.

- Termes. Füzetek, vol. 25, p. 46 (1902).
 Cameron, Ann. South African Mus., vol. 5, p. 75 (1906) (*Telerda*).
 Turner, Ann. Mag. Nat. Hist. (8), vol. 20, p. 245 (1917).
capensis Szépligeti Cape Province.
 Mitt. Zool. Mus. Berlin, vol. 7, p. 189 (1914).
concolor Szépligeti = *maculiceps* Cameron.
maculiceps Cameron Mombasa to Cape Province.
 Ann. South African Mus., vol. 5, p. 76 (1906) (*Telerda*).
 Szépligeti, Ann. Mus. Hist. Nat. Hungarici, vol. 4, p. 579 (1906) (*concolor*).
 Turner, Ann. Mag. Nat. Hist. (8), vol. 20, p. 245 (1917).
nigriceps Cameron Cape Province.
 Ann. South African Mus., vol. 5, p. 76 (1906) (*Telerda*).
trimaculatus Szépligeti Cape Province.
 Mitt. Zool. Mus. Berlin, vol. 7, p. 189 (1914).

ODONTOBRACON, Cameron.

- Biol. Centr. Amer. Hymen., vol. 15, p. 384 (1897).
 André Spec. Hymen. Eur., vol. 5bis, p. 10 (1897) (*Zombrus*).
 Kriechbaumer, Berliner Ent. Zeit., vol. 39, p. 60 (1894) (*Trimorus*, non Förster).
 Dalla Torre, Cat. Hymen., vol. 4, p. 250 (1898) (*Neotrimorus*).
 Szépligeti, Termes, Fuzetek, vol. 25, p. 47 (1902) (*Acanthobracon*).
 Cameron, Journ. Straits Br. Roy. Asiatic Soc., vol. 44, p. 104 (1905) (*Trichiobracon*).
atriceps nom. nov.
 Cameron, Zeits. Naturwiss., vol. 81, p. 442 (1909) (*nigriceps*, non Cameron 1887).
cameroni Szépligeti Delagoa Bay; Transvaal.
 Ent. Mitt., vol. 2, p. 385 (1913).
 Cameron, Zeits. Naturwiss., vol. 81, p. 441 (1909) (*Zombrus*) (*rufus*, non Cameron 1905).
duplicatus nom. nov. Cape Province.
 Cameron, Zeits. Naturwiss., vol. 81, p. 444 (*Zombrus luteus*, nec *Neotrimorus* (*Zombrus*) *luteus* Cameron 1905).
maculiceps Cameron Mozambique; Delagoa Bay.
 Ann. South African Mus., vol. 5, p. 78 (1906) (*Acanthobracon*).
maculifrons Cameron.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 169 (1905) (*Trichiobracon*).
nigriceps Cameron Cape Province.
 Zeits. Naturwiss., vol. 81, p. 442 (1909) (*Zombrus*).
nigripennis Kriechbaumer Central & South Africa.
 Berliner Ent. Zeit., vol. 39, p. 60 (1894) (*Trimorus*).
 Szépligeti, Mitt. Zool. Mus., Berlin, vol. 7, p. 196 (1914) (*Zombrus*).

- nigripes* Cameron Transvaal.
 Ann. South African Mus., vol. 5, p. 79 (1906) (*Acanthobracon*).
nigripes Cameron 1909 = *pedalis*.
nigromaculata Cameron Dunbrody, Cape Province.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 155 (1905) (*Zombrus*).
pedalis nom. nov.
 Cameron, Zeits. Naturwiss., vol. 81, p. 442 (1909); (*Zombrus*) (*nigripes*, non
nigripes Cameron 1806).
rufus Cameron Martindale.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 168 (1905) (*Trichiobracon*) non
rufus Cameron 1909).
rufus Cameron 1909 = *cameroni*.
spilopterus Cameron Cape Province.
 Zeits. Naturwiss., vol. 81, p. 442 (1909) (*Zombrus*).

PHANOMERIS, Förster.

- Verh. Preuss. Rheinlande, vol. 29, p. 235 (1862).
dubius Bingham S. Rhodesia.
 Trans. Ent. Soc. London, 1902, p. 546, pl. 16, fig. 59 (1902).

TELERDA, Cameron.

- Ann. South African Mus., vol. 5, p. 75 (1906).
maculiceps Cameron Cape Province.
 Ann. South African Mus., vol. 5, p. 76 (1906).
nigriceps Cameron Cape Province.
 Ann. South African Mus., vol. 5, p. 76 (1906).

XENOLOBUS, Cameron.

- Ann. Transvaal Mus., vol. 2, p. 199 (1911).
rufus Cameron Transvaal.
 Ann. Transvaal Mus., vol. 2, p. 200 (1911).
 Brues, Ann. South African Mus., vol. 19, p. 80.

LATANA, Cameron.

- Ann. South African Mus., vol. 5, p. 77 (1905).
excavata Cameron Natal.
 Ann. South African Mus., vol. 5, p. 78 (1906).

RHOGAS, Nees.

- Nov. Act. Nat. Curios., vol. 9, p. 306 (1818).
capensis Cameron Cape Province.
 Rec. Albany Mus., Grahamstown, vol. 1, p. 243 (1905).
erythrostromus Cameron = *melanocephalus*.
melanocephalus Cameron Natal; Transvaal; S. Rhodesia.
 Ann. South African Mus., vol. 5, p. 71 (1906).
 Cameron, Ann. Transvaal Mus., vol. 2, p. 196 (1911) (*melanocephalus*).
 Brues, Ann. South African Mus., vol. 19, p. 80.

- melanocerus* Cameron Rhodesia; Transvaal.
Ann. South African Mus., vol. 5, p. 71 (1906).
Brues, Ann. South African Mus., vol. 19, p. 80.
- melanospilus* Cameron Transvaal; Cape Province.
Ann. Transvaal Mus., vol. 2, p. 197 (1911).
Brues, Ann. South African Mus., vol. 19, p. 80.
- meridianus* Szépligeti Transvaal.
Mitt. Zool. Mus., Berlin, vol. 7, p. 207 (1914).
- pallidipalpis* Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 198 (1911).
- pictipennis* Brues S. Rhodesia.
Ann. South African Mus., vol. 19, p. 80.
- plurilineatus* Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 197 (1911).
- striatifrons* Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 199 (1911).
- transvaalensis* Cameron Central & Southern Africa.
Ann. Transvaal Mus., vol. 2, p. 199 (1911).
Szépligeti, Mitt. Zool. Mus., Berlin, vol. 7, p. 204 (1914).
- varicarinatus* Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 198 (1911).
- varinervis* Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 198 (1911).

GYRONEURON Kokujev.

- Rev. Russe Entom., vol. 1, p. 231 (1901).
- africanum* Brues. Zululand.
Ann. South African Mus., vol. 19, p. 82.

OPIUS, Wesmael.

- Mém. Acad. Sci., Bruxelles, vol. 9, p. 115 (1835).
- africanus* Szépligeti Transvaal.
Boll. Lab. Zool. Gen. Agrar, Portici, vol. 4, p. 346 (1910).
Silvestri, Boll. Lab. Zool. Gen. Agrar., Portici, vol. 8, p. 111 (1914).
- humilis* Silvestri. Cape Province.
Boll. Lab. Zool. Gen. Agrar., Portici, vol. 8, p. 106 (1914).
- lounsburyi* Silvestri Transvaal.
Boll. Lab. Zool. Gen. Agrar., Portici, vol. 8, p. 100 (1914).
- luteus* Kriechbaumer Natal.
Berliner Entom., Zeit., vol. 39, p. 314 (1894).

SULYDUS, Buysson.

- Ann. Soc. Entom. France, vol. 66, p. 354 (1897).
- marshalli* Buysson Transvaal.
Ann. Soc. Entom. France, vol. 66, p. 354, Pl. 11, figs. 1—1b (1897).

CYCLOCORMUS, Caméron.

Ann. Transvaal Mus., vol. 2, p. 209 (1911).

luteus Cameron Transvaal.

Ann. Transvaal Mus., vol. 2, p. 209 (1911).

MICRODUS Auct., non Nees.

Nov. Act. Acad. Nat. Curios., vol. 9, p. 304 (1818).

bipustulatus Cameron = *Disophrys dichroa* Brullé.

pallidus Kriechbaumer = *Disophrys lutea* Brullé.

DISOPHRYS, Förster.

Verh. naturh. Ver. preuss. Rheinlande, vol. 19, p. 246 (1862).

Cameron, Rec. Albany Mus., Grahamstown, vol. 1, p. 157 (1905). (*Xanthomicrodus*).

bipustulata Cameron = *dichroa* Brullé.

capensis Szépligeti Cape Province.

Mitt. Zool. Mus., Berlin, vol. 7, p. 214 (1914).

dichroa Brullé South Africa.

Hist. Nat. Ins. Hymen., vol. 4, p. 485 (1845) (*Agathis*).

Cameron, Rec. Albany Mus., vol. 1, p. 158 (1905). (*Microdus bipustulatus*).

? Szépligeti, Ann. Soc. Ent. Belgique, vol. 58, p. 116 (1914). (*Disophrys tarsalis*).

Brues, Ann. South African Mus., vol. 19, p. 86.

erythropus Cameron Transvaal.

Ann. Transvaal Mus., vol. 2, p. 205 (1911).

iridipennis Cameron Mozambique.

Rec. Albany Mus., Grahamstown, vol. 1, p. 158 (1905) (*Xanthomicrodus*).

Brues, Ann. South African Mus., vol. 19, p. 86.

lutea Brullé Equatorial & Southern Africa.

Hist. Nat. Ins. Hymen., vol. 4, p. 306 (1846) (*Agathis*).

Szépligeti, Mitt. Zool. Mus. Berlin, vol. 7, p. 214 (1914).

Brues, Ann. South African Mus., vol. 19, p. 86.

nataliensis Szépligeti Natal; S. Rhodesia.

Termes. Fuzetek, vol. 25, p. 71 (1902).

Brues, Ann. South African Mus., vol. 19, p. 86.

pedalis Brues Cape Province.

Ann. South African Mus., vol. 19, p. 85.

picturata Brues Transvaal.

Ann. South African Mus., vol. 19, p. 84.

rufa Cameron Transvaal.

Ann. South African Mus., vol. 5, p. 38 (1905).

testacea Cameron. Southern Cape Province.

Ann. South African Mus., vol. 5, p. 38 (1905).

SPILOMICRODUS, Cameron.

Timehri, Journ. Roy. Agric. Soc., British Guiana, vol. 1, p. 323 (1911).

Bradley, Psyche, vol. 23, p. 140 (1916).

- curvinervis* Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 205 (1911) (*Crassomicrodus*).

CRASSOMICRODUS, Ashmead.

- Proc. U. S. Nat. Mus., vol. 23, p. 128 (1900).
pumilus Szépligeti Transvaal.
Ent. Mitt., vol. 2, p. 385 (1913) (*Epimicrodus*).

TROTICUS Brullé.

- Hist. Nat. Ins. Hymén., vol. 4, p. 508 (1846).
ovatus Brullé Cape Province.
Hist. Nat. Ins. Hymén., vol. 4, p. 509 (1846).

EUAGATHIS, Szépligeti.

- Term. Füzetek, vol. 23, p. 62 (1900).
terebrator Brues Natal.
Ann. South African Mus., vol. 19, p. 86.

BRAUNŚIA, Kriechbaumer.

- Berliner Ent. Zeit., vol. 39, p. 62 (1894).
excelsa Brues Durban, Natal.
Ann. South African Mus., vol. 19, p. 89.
fenestrata Kriechbaumer Natal; Seychelles.
Berliner Ent. Zeit., vol. 39, p. 310 (1894).
Cameron, Percy Sladen Tr. Exped., vol. 4, p. 83 (1907) (*melanoptera*).
Brues, Ann. South African Mus., vol. 19, p. 88.
mimetica Brues Durban, Natal.
Ann. South African Mus., vol. 19, p. 88.

CREMNOPS, Auct.

- See note on p. 90 regarding this name.
obsolescens Brues Zululand.
Ann. South African Mus., vol. 19, p. 91.
zululandensis Brues Zululand.
Ann. South African Mus., vol. 19, p. 90.

MEGAGATHIS Kriechbaumer.

- Berliner Ent. Zeit., vol. 39, p. 311 (1894).
nataliensis Kriechbaumer Natal; Zululand.
Berliner Ent. Zeit., vol. 39, p. 312 (1894).

AGATHIS, Latreille.

- Hist. Crust. et Ins., vol. 13, p. 175 (1805).
? capensis Cameron Cape Town.
Ann. South African Mus., vol. 5, p. 37 (1906).
dichroa Brullé = *Disophrys dichroa*.

MESOAGATHIS, Cameron.

Rec. Albany Mus., vol. 1, p. 172 (1905).

fuscipennis Cameron Southern Cape Province.
Rec. Albany Mus., Grahamstown, vol. 1, p. 172 (1905).

APANTELES, Foerster.

Verh. naturh. Ver. Preuss. Rheinlande, vol. 19, p. 245 (1862).

africanus Cameron = *cameroni*.

africanus Viereck (*Protapanteles*) Transvaal.
Proc. U. S. Nat. Mus., vol. 40, p. 174 (April 1911).

basimacula Cameron Southern Cape Province.
Rec. Albany Mus., Grahamstown, vol. 1, p. 173 (1905).
Cameron, Ann. South African Mus., vol. 5, p. 204 (1907).

cameroni nom. nov.

africanus Cameron, non Viereck.

Cameron Ann. Transvaal Mus., vol. 2, p. 207 (January, 1911¹).

capensis Cameron Cape Town.
Ann. South African Mus., vol. 5, p. 203 (1907).

eurygaster Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 207 (1911).

fuscinervis Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 207 (1911).

maculitarsis Cameron Southern Cape Province.
Rec. Albany Mus., Grahamstown, vol. 1, p. 173 (1905).

testaceiventris Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 208 (1911) (*testaceioventris*).

transvaalensis Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 208 (1911).

STENOPLAURA, Viereck.

Proc. U. S. Nat. Mus., vol. 40, p. 187 (1911).

sesamiae Cameron Southern Africa.
Trans. South African Philos. Soc., vol. 16, p. 335 (1906) (*Apanteles*).
Viereck, Proc. U. S. Nat. Mus., vol. 40, p. 188 (1911).

UROGASTER, Ashmead.

Proc. U. S. Nat. Mus., vol. 23, p. 132 (1900).

fuscicornis Cameron Cape Province.
Zeits. Naturwiss., vol. 81, p. 449 (1909).

CARDIOCHILES, Nees.

Hymen. Ichneum. Affin., vol. 1, p. 224 (1834).

Cameron, Rec. Albany Mus., Grahamstown, vol. 1, p. 169 (1905) (*Schönlandella*).

¹) Although the date is given as January, it was undoubtedly later than the paper by Viereck, who used the same name for another species, since this number of the Annals of the Transvaal Museum was not received in Boston till August 1911.

- angustifrons* Brues Natal.
Ann. South African Mus., vol. 19, p. 94.
- forticarinatus* Cameron E. Cape Province.
Zeits. Naturwiss., vol. 81, p. 445 (1909).
- fossatus* Brues Natal.
Ann. South African Mus., vol. 19, p. 97.
- fulviventris* Cameron Cape Province.
Ann. South African Mus., vol. 5, p. 40 (1906) (*Schönlandella*).
Cameron, Trans. South African Philos. Soc., vol. 16, p. 331 (1906).
Brues, Ann. South African Mus., vol. 19, p.
- latifrons* Brues Kimberley.
Ann. South African Mus., vol. 19, p. 93.
- longipennis* Brues Zululand.
Ann. South African Mus., vol. 19, p. 98.
- nigricollis* Cameron Southern Cape Province.
Rec. Albany Mus., Grahamstown, vol. 1, p. 171 (1905) (*Schönlandella*).
Cameron, Trans. South African Philos. Soc., vol. 16, p. 331 (1906).
- nigromaculatus* Cameron Southern Cape Province.
Rec. Albany Mus., Grahamstown, vol. 1, p. 170 (1905) (*Schönlandella*).
Cameron, Trans. South African Philos. Soc., vol. 16, p. 331 (1906).
- nitidus* Brues Namaqualand.
Ann. South African Mus., vol. 19, p. 96.
- rufomaculatus* Cameron E. Cape Province.
Zeits. Naturwiss., vol. 81, p. 446 (1909).
- striatus* Brues Transvaal; Cape Province.
Ann. South African Mus., vol. 19, p. 95.
- testaceus* Cameron = *testaceipes*.
- testaceipes* Cameron S. Rhodesia.
Ann. South African Mus., vol. 5, p. 39 (1906) (*Schönlandella testacea*).
Cameron, Trans. South African Philos. Soc., vol. 16, p. 331 (1906).
- trimaculatus* Cameron Southern Cape Province.
Rec. Albany Mus., Grahamstown, vol. 1, p. 171 (*Schönlandella*).
Cameron, Trans. South African Philos. Soc., vol. 16, p. 331 (1906).
Szépligeti, Mitt. Zool. Mus., Berlin, vol. 7, p. 221 (1914).

MACROCENTRUS, Curtis.

- Entom. Mag., vol. 1, p. 187 (1833).
- annulicornis* Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 211 (1911).
- capensis* Cameron Cape Province.
Ann. South African Mus., vol. 5, p. 30 (1906).
Brues, Ann. South African Mus., vol. 19, p. 63.
- latisulcatus* Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 210 (1911).
- luteus* Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 210 (1911).

- nigroornatus* Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 211 (1911).
pallidistigma Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 210 (1911) (*pallidistigmas*).

METEORUS, Holiday.

- Entom. Mag., vol. 3, p. 24 (1835).
trilineatus Cameron Southern Cape Province.
Rec. Albany Mus., Grahamstown, vol. 1, p. 242 (1905).

HELORIMORPHA, Schmiedeknecht.

- Hymen. Mitteleuropas, p. 523 (1907).
Cameron, Soc. Entom., Jahrg. 24, p. 9 (1909) (*Stictometeorus*).
africana Brues Zululand.
Ann. South African Mus., vol. 19, p. 101.
rufa Cameron Cape Province.
Soc. Entom., Jahrg. 24, p. 9 (1909) (*Stictometeorus*).
Brues, Ann. South African Mus., vol. 19, p. 101.

PERILITUS, Nees.

- Nov. Act. Acad. Nat. Curios., vol. 9, p. 302 (1818).
angustatus Brues Southern Cape Province.
Ann. South African Mus., vol. 19, p. 104.
latus Brues Southern Eastern Cape Province.
Ann. South African Mus., vol. 19, p. 104.
ruficollis Cameron Southern Cape Province.
Ann. South African Mus., vol. 5, p. 29 (1906).

FÖRSTERIA, Szépligeti.

- Wiener Ent. Zeit., vol. 15, p. 148 (1896).
nitida Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 204 (1911).

PHANEROTOMA, Wesmael.

- Nov. Mem. Acad. Sci. Belgique, vol. 11, p. 165 (1838).
curvicarinata Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 204 (1911).
curvimaculata Cameron Transvaal.
Ann. Transvaal Mus., vol. 2, p. 203 (1911).
dubia Bingham Mashonaland.
Trans. Ent. Soc. London, p. 546, pl. 18, fig. 69 (1902).
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